The Coloured Atlas of Medicinal and Aromatic Plants of Jordan and Their Uses (Volume Three)

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By

Jamal Ragheb Said Qasem

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DEDICATION

- In the name of God, who created, invented and sustained all these wonderful, valuable, diverse plant species, His mercy and His blessing, and who said "We will show them our signs in the horizons and within themselves until it becomes clear to them that it is the truth. But is it not sufficient concerning your Lord that He is, over all things, a Witness?" (Sura Fussilat 041-053).
- To my homeland and to all who bless its soil.
- To the memory of my parents, who made sacrifices for my education and taught me that the land is faith and life.
- To all my grandchildren, to learn and to know the value of the source and the product.

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PREFACE

Authoring a reference book on an important subject utilized daily by the public, traders, readers and researchers is not an easy task in the absence of well-planned and well-conducted academic research and real scientific information. A huge number of reference books and an overwhelming amount of articles on medicinal and aromatic plants are available in local markets, bookshops, libraries, and many herbal stores and shops specializing in folk medicine trades and preparing, formulating and selling these plants or their materials; some are of an acceptable history and accumulated experience while others are recently founded and have little or no experience but are rather invested in this field. All these sources mentioned, in addition to the public's inherited experience on the utilization of these plants in folk medicine, herbalism and traditional herb practices and their knowledge on plant-based medications that have been passed down from one family to another within communities, have created a great demand for knowledge on these species' use in medication. However, many of the available reference works have been gathered, compiled or prepared by non-specialists, which casts some doubt on their information, which may negatively add to our knowledge or even be confusing. In addition, many authors, researchers and project leaders in this field of science are either not specialists or are unfamiliar with medicinal and aromatic plants, and thus their results and reports may lead to random public use of these species in folk medicine, which could result in permanent illness or death.

Aromatic and medicinal plants are renewable resources for drugs, the medicinal industry, cosmetics, perfume and pesticides. Many species are toxic if used fresh or in crude forms, or may be so at a certain stage or under specific conditions. Others are extremely poisonous when internally taken, used in high doses, or when repeatedly applied or utilized for a long period. Some are also effective for curing local inhabitants but are not so for foreigners, hence the statement of Hippocrates that one should "treat or cure each patient by plants of his own land which are most appropriate to restore his health and recovery from illness". The active constituents of these plants are not produced or synthesized, but are only available under certain conditions or at a certain time of the day, season or year and only in certain plant parts.

As an author, agriculturalist, weed science specialist, lecturer on medicinal and aromatic plants, and researcher, I have reviewed the literature and gathered exact and correct information on these important species in drugs and in the industry, as reported and confirmed by different authors. However, many of the reported species in this book have not been fully researched or studied and their active constituents are still unknown. I should indicate that I am not the author who examined or proved species' effectiveness and their safe use against the illnesses and diseases reported in this book. Therefore, self-medication using these species or in folk medicine is the responsibility of the user, who should always seek medical advice from a specialized practitioner. The book is an important source of scientific information, but is certainly not a guide for self-medication. It emphasizes wild grown species, which hence are unfamiliar to the public; many cause health difficulties if misused but are important for investment and the ecosystem. However, with the world's increasing interest in natural products and herbalism, medicinal and aromatic species gain priority as renewable resources for such natural chemicals, and more research and development is needed.

Finally, I do not claim that the species reported are all that occur in Jordan's flora, especially in the absence of actual academic research or survey studies. I should indicate that many species occurring in local habitats lack basic information with regard to their biology, ecology and importance, and are only listed as wild species of an unknown value or as common weeds. However, this atlas introduces 769 plant species (209 are cultivated and 560 are wild grown) occurring in Jordan belonging to 119 plant families, and all are listed with necessary information. The atlas presents a full colour photo for each species for readers to become acquainted with the species presented and shows their values to the national economy and environment.

Jamal R. Qasem

ACKNOWLEDGEMENTS

First, thanks to God for completing this reference book and making it into a reality for the scientific community, students, researchers and interested public readers in this important branch of science. Creation, health, toxicity, wellness, sickness, recovery, drugs and cures all are from and by God, and must lead any who deeply think on creation to become a believer. The Holy Qur'an says, "Those who remember Allah while standing or sitting or [lying] on their sides and reflect on the creation of the heavens and the earth [and say] "Our Lord, You did not create this aimlessly; exalted are You [above such a thing]; protect us then from the punishment of the Fire"" (Ali-Imran 003-191). I would like to express my gratitude to the Deanship of Academic Research at the University of Jordan for approving and funding this project. I also thank Miss Hadeel Bdair and Mrs. Dina Al-Hattab for their part-time technical assistance during the early preparation phase of this project; thanks are also extended to Mr. Madi Al-Abbadi for joining me on field trips, Mr. Alex Monaghan for proof-reading the manuscript and the Cambridge Scholars Publishing family for printing and publishing the book. Thanks to my wife and sons who supported and encouraged me throughout the whole period. Finally, to all friends and colleagues who encouraged me to complete this project and highly valued its importance, I say thanks, and to others who thought its completion would not be an easy task, or even an impossible one, I say your feelings were behind my persistence and insistence to complete this work. Having realized the merits of its publication, I offer it to all who are homesick and in love with scientific research, who devote their lives to their homelands, and who believe in history and originality.

INTRODUCTION

The history of utilizing plants for their healing properties is as old as man himself. The first man on earth was searching for plants that would fulfil his needs of food, shelter, medicine and beauty then, later, as feed for his animals. He recognized useful plants, and protected and increased their number, productivity and/or the area they occupied, while other plants of unknown values or which were poisonous were ignored or severely controlled. However, in the absence of historical documentation on the exact date, the grave of a Neanderthal man buried 60,000 years ago reveals that the connection between plants and human health has existed for thousands of years. Such a link has also been confirmed through the drawings on graves of Ancient Egyptians and documented in medical hieratic papyri. Mesopotamian prescriptions and the medicinal substances of the Babylonians and Sumerians are available from the era of Hammurabi's laws on plants' uses in medication with full details on diseases, plants' doses, formulations and the time at which these were used. Some species, however, were also found to have grown in biblical gardens. The great historical documents on medicinal plants' uses in human medication have also been found in China, Greece, India and some European countries. However, many of the plant species used in history for healing certain ailments or against certain diseases have also proved effective against the same diseases in modern medicine; some formulations have been changed, while others are still used as they were when they were first prescribed.

Plants are a renewable resource for human drugs and veterinary medicine. Medicinal and aromatic plants represent a significant component of the natural ecosystem and agroecosystems, play an important role in industry and add significantly to a nation's economy. Many are used as drugs and drug additives in perfumes, cosmetics, food, flavouring agents and spices or as a source of natural pesticides. With the trend towards rapid urbanization, people became more concerned about their food, drinks, drugs and environment, and more interested in a safe habitat, a clean environment, a hazard-free life and their welfare. Although many countries have traditionally adopted a natural system for their food and drug production, and folk medicine is widely practised, others are more restricted and dependent on synthetic or manufactured materials as a main source of food and products. However, with better awareness of the problems that the second system created for human health and the environment, natural products became more attractive for health, industry, and investment in food and drugs, and thus more attention is given to protecting the natural ecosystem. In this context, using natural resources and organic food production in the drug industry is highly respected. Considering the above-mentioned reasons, and the possible risk in using synthetic drugs and other chemicals on human health and the environment, people worldwide have turned back to nature's chemicals. While 400,000 chemical compounds are estimated to occur in plants, only 10,000 have been isolated and identified as secondary metabolites of different uses. This huge number of plants' natural chemicals could greatly serve and fulfil humanitarian needs in all fields.

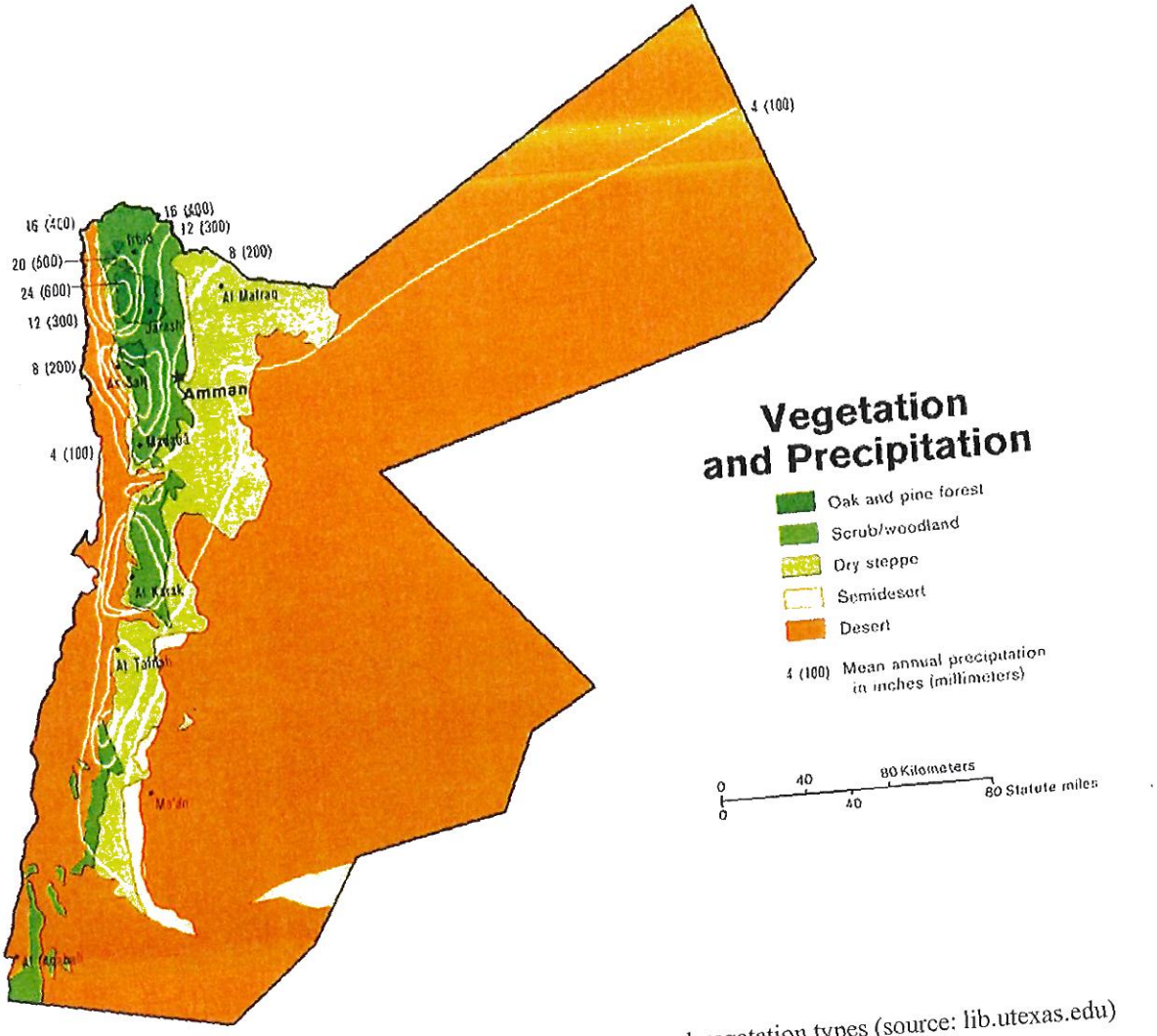
In Jordan, almost 2,500 plant species have been reported to occur in the country, accounting for about 1% of the total number of plant species known in the world. Among these, 350 to 500 are regarded as useful in medicine and cures, and many of these are also used in food and for other purposes. The main issue is the absence of a drug industry and the complete reliance on imported chemical drugs and pesticides. This declined levels of interest in these species and investment in their production. In addition, harvesting, heavy grazing, war, drought, salinity, low rainfall and housing construction have created unfavourable conditions for the plant population's expansion in natural habitats and/or their cultivation. All have contributed to placing many plants in endangered or threatened categories despite the diverse environmental conditions, extending from tropical and sub-tropical to the Sahara-Arabian, that create ideal environments for a wide diversity of such species or others in the country.

The present book is divided into three volumes: the first is devoted to cultivated plant species while the second and the third cover wild grown species. Plants are arranged alphabetically based on their scientific names, regardless of other factors. It is a reference book that includes basic information on medicinal and aromatic species in Jordanian flora, emphasizing their importance in the drug industry and the natural ecosystem. It is of value for the general public, folk medicine practitioners and the drug and chemical industry. The scientific merit of this publication is clear for certain university departments, including medicine, pharmaceutical, scientific and agricultural faculties.

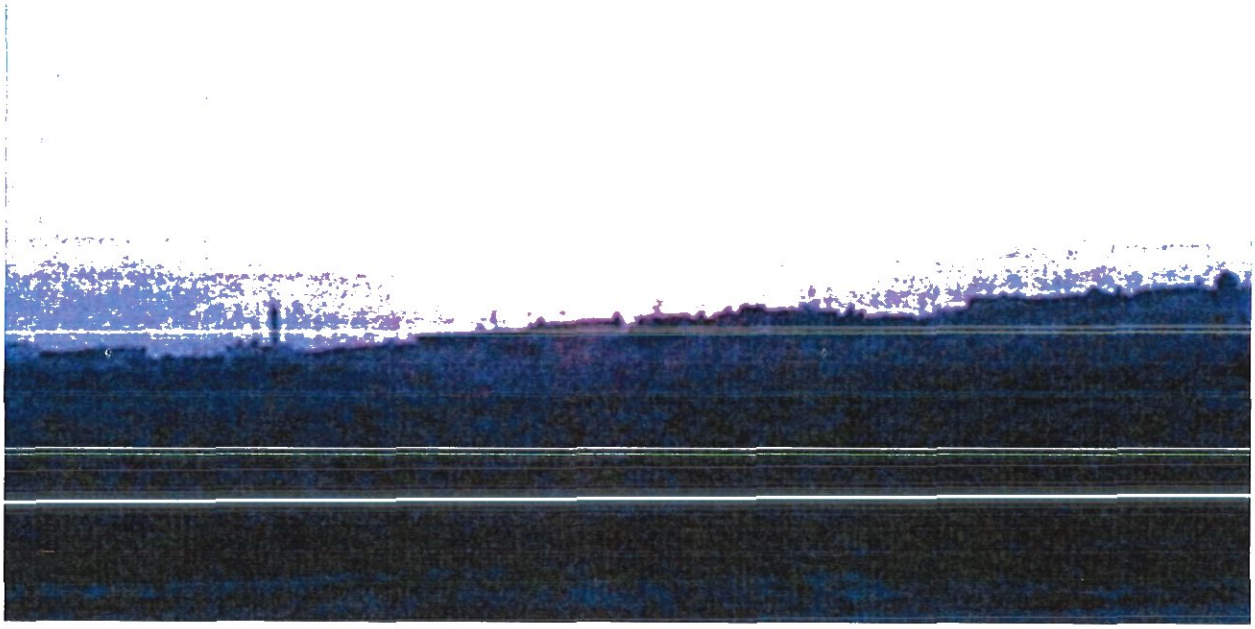
I have full faith in the work and hope that the book highlights a number of medicinal and aromatic plant species in Jordan and provides interested people with useful knowledge on each. Finally, thanks to the Lord who greatly helped me in finding, identifying, directing and finishing this work and, above all, who created these beautiful plants that maintain their secret curing recipes for many difficult human and veterinary diseases that specialists have no solution for and which are only stored in these peaceful, sensitive, and sometimes endangered or threatened plants. The book emphasizes wild species unfamiliar to the public that have been ignored or severely prevented from sowing their seeds or producing propagules to maintain their genetic lines and exist in nature. Thanks to the creature that organized and managed the life of all living organisms to exist and have strong ties to fulfil the needs of all. Man does not know all benefits of plants; many are still hidden and are only discovered through research, and therefore each species may be

regarded as a natural pharmacy that includes all drugs necessary for humans. Each species has some sort of beauty and it is our goal to search for and discover them. However, man, who we started with, is himself responsible for the eradication, killing and disappearance of these species in his habitat, which should have instead been protected, increased and developed.

The author



Map of Jordan showing the country's biogeographical regions and vegetation types (source: lib.utexas.edu)



With each sunrise, a new day starts that brings a huge amount of knowledge for those who want to learn.

VOLUME THREE

WILD MEDICINAL AND AROMATIC PLANTS OF JORDAN

- **Arabic name**: Fujaileh
- **Scientific name**: *Hirschfeldia incana* Lagr-Fossat
- **Common name**: Buchanweed, Greek Mustard, Hairy Brassica, Hoary Mustard, Mediterranean Mustard, Shortpod Mustard
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves and seeds
- **Chemical constituents**: Glucoberteroine, glucoberverine, glucosinolates, sinigrin, pentenyl, mustard oil made from 2-phenylethyl, but-3-enyl allyl, and methylthioalkyl isothiocyanates. The plant accumulates lead, copper, lithium and silicon.
- **Pharmacological action**: The plant removes heavy soil polluting minerals and toxic materials and thus prevents their absorption and presence in crop plants consumed by humans and animals.
- **Other uses**: Young small plants are eaten with oil and lemon juice. Leaves and small plants are also edible raw. The seeds, either raw or cooked, may be powdered, mixed in water then taken. The plant is consumed like a vegetable in some countries. It has many relative species such as mustard oil, black mustard and cauliflower, and thus it is an important wild species in plant breeding. It may be used in polluted soil restoration programs and could be regarded as an ideal model in the identification of genes responsible for the accumulation and tolerance of heavy metals in the plant.
- **Caution**: No reports.

- **Arabic name**: Sakran, Banj, Banj Thahabi, Banj Asfar
- **Scientific name**: *Hyoscyamus aureus* L.
- **Common name**: Golden Henbane, Henbane
- **Family name**: Solanaceae
- **Growth habit**: Herb
- **Life cycle**: Biennial
- **Part/s used**: Leaves, stems, flowering laterals, seeds, and the whole plant.
- **Chemical constituents**: Tropane alkaloids including cuscohygrine, tropanol, scopanol, noratropine, norscopolamine, atropine, scopolamine, apoatropine, aposcopolamine and chlorogenic acid. It also contains hayosipisirin, and hyoscyamine (2% in flowers and in leaves) that are converted into atropine, hayoscin and ahalocynogin. In seeds, the fixed oil made from organic acids includes oleic, linoleic, and unsaturated acids. In addition, the plant contains volatile oils.
- **Pharmacological action**: The plant is anodyne, narcotic and antispasmodic. It is used in the treatment of eye infections and rheumatism; it also helps with muscle relaxation, asthma, kidney colic and alleviates toothache. Dried leaves are used like cigarettes with tobacco leaves for asthma and abdominal colic. The leaves, flowers or both are formulated as tablets given orally for numbing before small, simple surgeries. The plant is used for kidney ailments, sciatica, bone problems, gout, ophthalmia and eye disorders, rheumatism, toothache and wounds.
  Recently, a scopolamine derivative in the form of hydrobromide has been used as a sedative and a calmant in cases of hysteria, hallucination, anger, paralysis, chronic headaches and coughs. They alleviate Parkinson's disease effects, chronic headaches and coughs.
  The seeds are painkillers, dried leaves are tranquilizers, treat neuralgia, and diminish convulsions, and pounded leaves are used as a cataplasm to alleviate pain.
- **Other uses**: It is a wild flower and common weed. It is cultivated as a summer crop in different countries for the pharmaceutical industry. Other species including *H. niger*, *H. reticulatus, H. aureus, H. albus, H. pusillus* and *H. desertorum* are found growing wild in different regions in Jordan.
- **Caution**: The genus includes some species that may contain tropane alkaloids such as atropine, hyoscyamine and others. All parts of the plant are very toxic. The seeds are highly toxic and are used in poisons and love

potions. The plant contains atropine alkaloids and tannins. Symptoms of poisoning include a dry mouth, heart palpitations, dizziness, sleepiness, headaches, impaired vision, convulsions, coma and death resulting from heart or respiratory failure. Toxicity also results in hallucinations and salivation. The lethal dose from atropine is almost one gram.

In animals, it causes nerve excitation in sheep and cows, and heart and breathing difficulties and vasodilation in small animals.

In a natural habitat

- **Arabic name**: Sakran, Banj
- **Scientific name**: *Hyoscyamus muticus* L.
- **Common name**: Henbane
- **Family name**: Solanaceae
- **Growth habit**: Herb
- **Life cycle**: Biennial or Perennial
- **Part/s used**: Leaves, flowering stems, seeds, and flowering terminals.
- **Chemical constituents**: Alkaloids: tropanol, scopanol, noratropine, norscopolamine, atropine, scopoline, apoatropine, and aposcopolamine. Flowers contain hyoscyamine, scopolamine, tetramethyl-diamino butane and chlorogenic acid. The plant pigments of anthocyanin are most important.
- **Pharmacological action**: The plant is a narcotic, anodyne, stomach tonic, and muscle relaxant, and is used for asthma, kidney colic and toothache. It is also a cure for hysteria and severe coughs. Atropine is used for eye pupil dilatation. Plant formulations are used in tinctures or soaked as an astringent, diuretic and antiseptic for intestinal inflammations. As a gargle, it cures gingivitis and stomatitis. It has antimicrobial and anti-diarrhoeal effects, and heals contaminated new wounds, burns and sores. It is also a remedy for sinusitis, pharyngitis, haemorrhoids, abrasions of mucus vessels, and is effective in the restoration of surface tissues. A plant tincture is cardiotonic and hypertensive. The aromatic oil is used for gastritis and stomach ulcers. A drink made from the plant is sedative and used in cases of nervous stress, insomnia and depression. It

removes colic. Leaves' cigarette smoke and the inhalation of leaves' and seeds' smoke alleviate coughs and enhance the respiratory system and teeth.

- **Other uses**: The plant is regarded as a wild flower and common weed. It grows wild in different regions in Jordan and can be found in orchards and cultivated fields during the summer season.
- **Caution**: Some species of this genus may contain tropane alkaloids, e.g. atropine, hyoscyamine and others. The plant is a poisonous species and causes headaches, nervous system excitation and hallucinations.

- **Arabic name**: Sakran, Banj
- **Scientific name**: *Hyoscyamus reticulatus* L.
- **Common name**: Henbane
- **Family name**: Solanaceae
- **Growth habit**: Herb
- **Life cycle**: Annual or Biennial
- **Part/s used**: Leaves, flowering stems, and seeds.
- **Chemical constituents**: Noratropine, norscopolamine, atropine, hyoscyamine, hyosepiserin, hyoscin, ahalocyanogen, scopolamine, apoatropine, aposcopolamine and essential oils.
- **Pharmacological action**: It is a narcotic, sedative and antispasmodic. It is used for asthma, kidney ailments, bone problems, sciatica, gout, ophthalmologic disorders, rheumatism and toothache.
- **Other uses**: A wild flower and common weed.
- **Caution**: The genus includes some species that may contain tropane alkaloids including atropine, hyoscyamine and others. The plant is toxic, and in animals causes nerve violation, difficulty in breathing, the dilatation of blood vessels, toxication and death. In humans, it causes mouth dryness, heart palpitations, dizziness, headache ailments, hallucinations, salivation, insanity and death.

Spread in the field

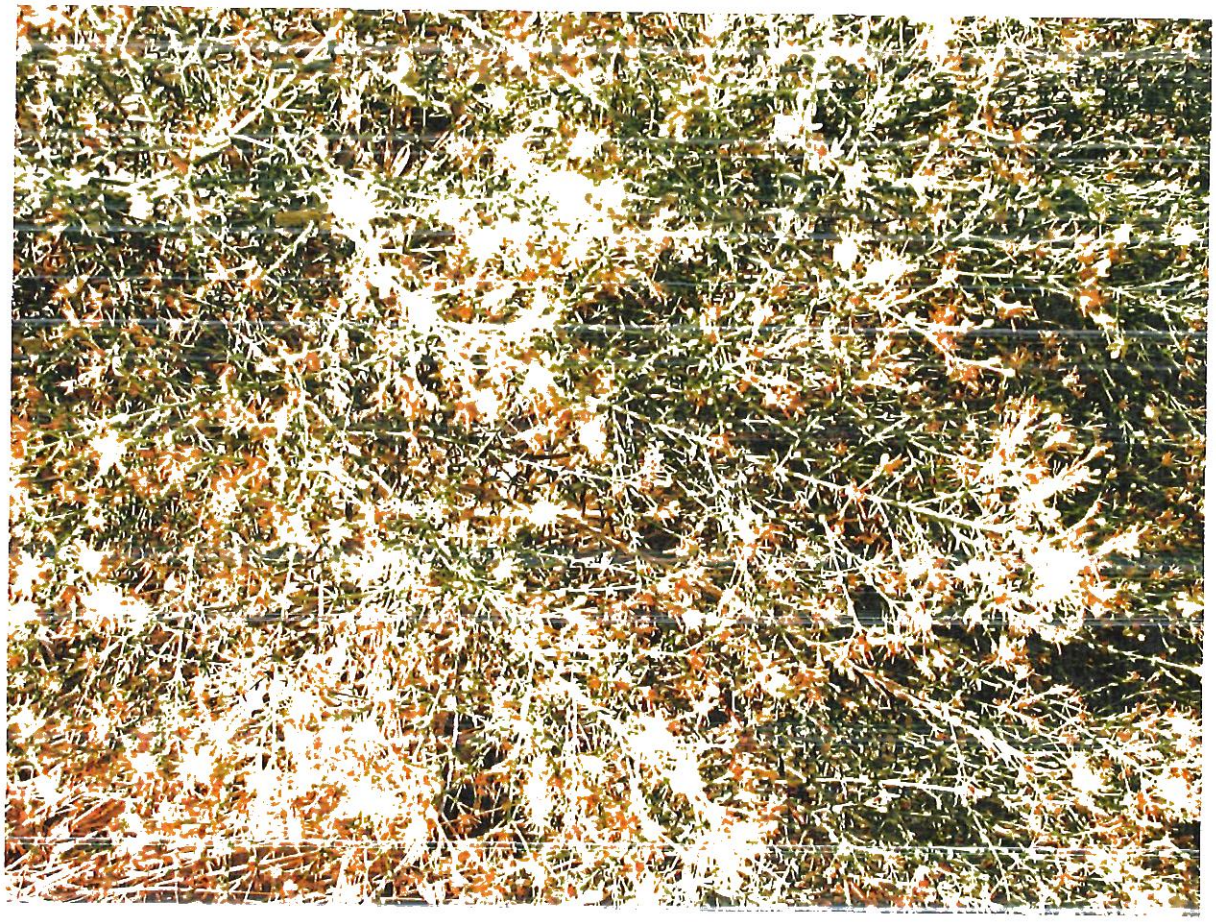
Hyoscyamus desertorum

Hyoscyamus sp.

- **Arabic name**: Qreen Al-Jedian, Jheera
- **Scientific name**: *Hypecoum procumbens* S.G.Gmel
- **Common name**: Procumbent Hypecoum, Sickle Fruited Hypecoum
- **Family name**: Papaveraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The flowering plant.
- **Chemical constituents**: Protopine and other alkaloids.
- **Pharmacological action**: The plant is narcotic and diuretic. It contains opium and an orange juice in the stem with strong narcotic properties, and so acts as a sedative for coughs and bronchitis.
- **Other uses**: A wild flower and common weed.
- **Caution**: The plant contains narcotic materials.

- **Arabic name**: Aran, Rojah, Eiraineh
- **Scientific name**: *Hypericum triquetrifolium* Turra
- **Common name**: St. John's Wort, Curled-leaved St. John's Wort, Hypericum, Tutsan
- **Family name**: Hypericaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant, upper tops of the plant, leaves, and flowers.
- **Chemical constituents**: Hypericin, hyperine, hyperoside glycoside, tannin and resin in the plant. Leaves and other succulent parts contain hypericin, pseudohypericin, hyperforin, flavon compounds such as hyperoside. The plant also contains rutin, quercitin, volatile oil, anthocyanin, vitamin C and carotene. Flowering heads contain a volatile red oil consisting of pinene, cineol, myricin and cadenine.
- **Pharmacological action**: The plant is sedative, tonic, diuretic, antiseptic, antimicrobial and astringent. It is used in the treatment of urine problems, diarrhoea, hysteria, depression, haemorrhages and jaundice. A root decoction is a cure for chronic coughs associated with a thick whitish sputum. The plant is a blood cleansing agent and is very good for tumours and boils, and is also effective for chronic uterine problems and disturbed menstruation. It may adversely affect heart potency, HIV and birth control medications. *Hypericum perforatum* is a common treatment in homeopathy, heals deep wounds and alleviates depression. A flower decoction is used for headaches and the essential oils treat ulcers and burns.
- **Other uses**: The aerial parts clean the bodies of animals. The plant is a wild flower and common weed.
- **Caution**: The hypericin causes severe allergic reactions in white coloured animals and trembling, especially upon being exposed to light. This allergy results in head shaking and shivering in sheep, abdominal swellings, a high body temperature, fast respiration, skin scratching and itching, resulting in injuries and wounds that heal with difficulty, however, the itching stops when in the shade. This effect is clearly demonstrated when the plant is freshly digested, but also appears after the ingestion of dried plants, although 80% of the hypericin is lost in the drying process. The harmful effect appears within 1-2 weeks after feeding on the plant. Sheep keep shaking their heads and moving towards water; however, this is accompanied by increases in temperature and respiration rates after 3-4 hours of plant ingestion. Toxicity in humans appears as swollen spots on the skin.
  The ingested plant is also potentially phototoxic to the eye and could contribute to early cataractogenesis. Precautions should be taken to protect the eye from intense sunlight when using the plant. It is strongly

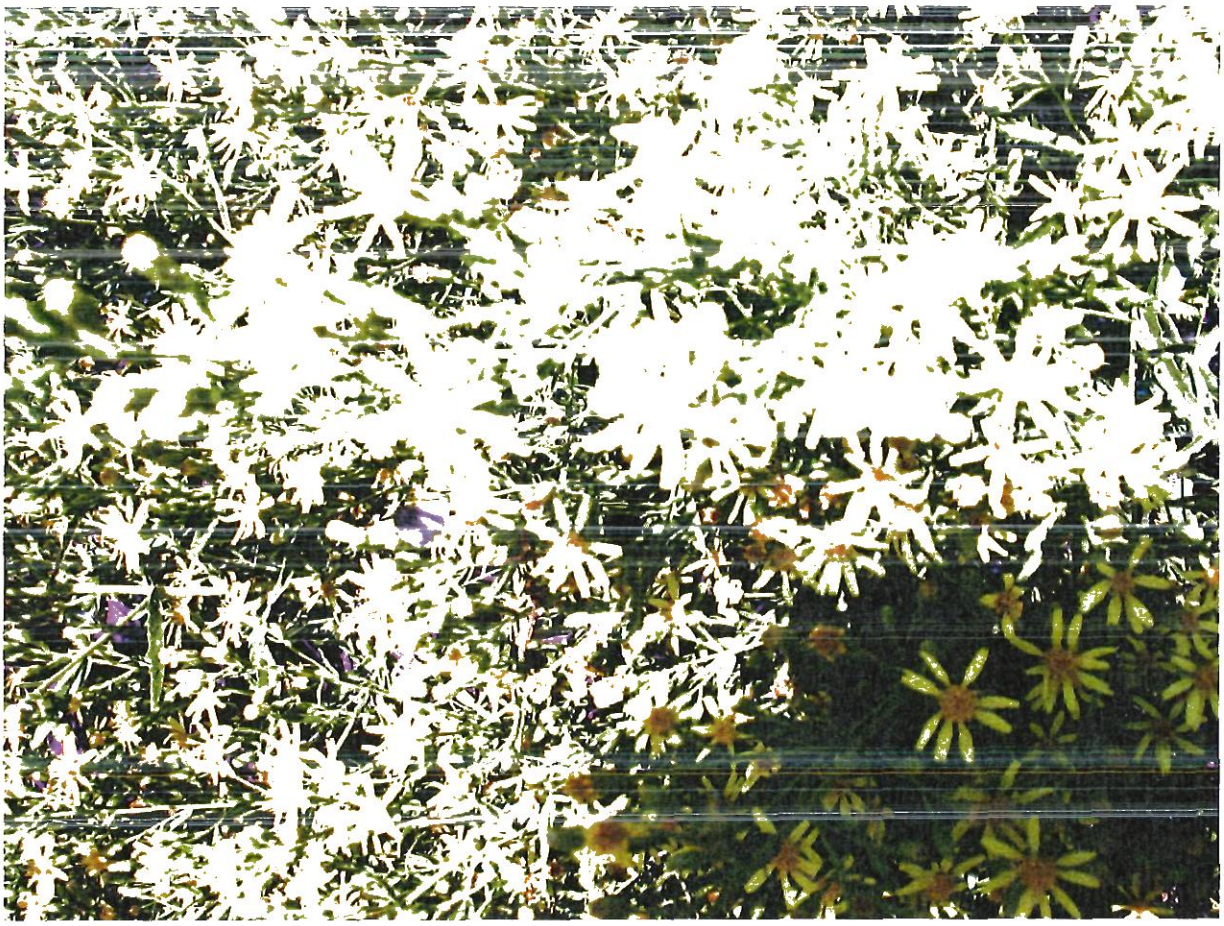
recommended not to be taken during pregnancy or when tanning. It has caused a few deaths in patients undergoing anti-HIV/AIDS treatment and cancer therapy. Extremely high doses are hepatotoxic. The extract can reduce the plasma concentrations of different antineoplastic agents such as imatinib, irinotecan and docetaxel, thus reducing the clinical efficacy of these drugs. The herb contains xanthone derivatives, alkaloids, and hypericin in the flowers, and there are also high amounts of these in the seeds.



- **Arabic name**: Halfa, Hulaiafa'I Estuwania
- **Scientific name**: *Imperata cylindrica* (L.) Beauv.
- **Common name**: Cogongrass
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Flowers, leaves and the whole plant.
- **Chemical constituents**: The triterpenoids arundoin, cylindrin and fernenol.
- **Pharmacological action**: The plant is anthelmintic, antibacterial, anti-diabetic complications, anti-virus, anticancer, astringent, diuretic, emollient, febrifuge, cell restorative, styptic, tonic and anti-rheumatic. Its flowers are used for haemorrhages, wounds, urinary tract infections, fevers and thirst. The root is anti-febrile, stops nose bleeds, and cures haematuria, haematemesis, edema, jaundice, digestive disorders, diarrhoea and dysentery. Its extracts have shown virucidal, anti-cancer and anti-blood tumour activities.
- **Other uses**: The plant's leaves are usually woven to make hand-made mats, bags and raincoats. The inflorescences are valued for stuffing pillows and cushions. The plant is used in land reclamation and for soil erosion control. Stems and leaves are used for making ropes, and its fibres are used in the paper industry. The plant is used for thatching the roofs of traditional homes in certain parts of the world. The flowers, leaves and roots are edible. The plant is regarded as an ornamental species and an aquatic weed.
- **Caution**: No reports.

- **Arabic name**: Hattab Zaiti
- **Scientific name**: *Inula crithmoides* L.
- **Common name**: Golden Samphire
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Aerial parts
- **Chemical constituents**: Alkaline phosphatase, γ-glutamyl transferase, total protein, albumin, creatinine kinase, glutathione peroxidase, superoxide dismutase, and malondialdehyde.
- **Pharmacological action**: The plant is used against OTA-induced mutagenicity and oxidative stress, protects against cytotoxicity and CNS depressor activity, and is an analgesic. It also has anti-inflammatory effects.
- **Other uses**: A wild flower.
- **Caution**: No reports.

- **Arabic name**: Tayoon, Zanjabeel Shami
- **Scientific name**: *Inula helenium* L.
- **Common name**: Elecampane
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Roots of 2-3 years old.
- **Chemical constituents**: Essential oil, inulin, gums and the bitter substance helenine. Triterpene saponins, sterols and polyacetylins. Thymol derivatives, sesquiterpene lactones in roots, tannins, terpenes, polyphenols, alantolactone (AL) and isoalantolactone (IAL), coumarins (xanthotoxin, isopimpinellin, isobergapten), flavonoids (rutin, quercetin), polysaccharides (inulin, pectin substances), fatty acids (tartaric and succinic), saponins, phenolic acids, sesquiterpenoid lactones as alantolactone, isoalantolactone, dihydroalantolactone and other minority isomers representing up to 80% of the oil.
- **Pharmacological action**: It is an appetizer, expectorant, diuretic, diaphoretic, bactericidal, anthelmintic, anti-depressant and anti-tussive. The plant is a cure from scabies, anaemia, asthma, wounds, pimples, and exanthema. The underground part preparations have anti-stress and antioxidant properties. The sesquiterpene showed anti-tumour-promoting activity. These toxic compounds, except for the new compounds, were also reported as potent antibacterial, anthelmintic and anti-tumour agents.
  The roots are tonic, antioxidant and used to heal skin disorders and cure dropsy. The plant is used in cough mixtures, and, as an anthelmintic, for ridding children of pinworm and roundworm. It also has cholagogic, antiseptic and tonic properties and is used for bronchitis, anorexia and digestive disorders. The essential oil of the roots has insecticidal, anthelmintic, antiphlogistic, antibacterial (against *Staphylococcus aureus* and *S. pyogenes*), antifungal and anti-fatigue activities.
- **Other uses**: It is an acaricide against *Dermatophagoides* spp., and the plant extract is applied to fight and/or prevent harmful insects from attacking plants. The oil has a high level of antibacterial activity against *S. aureus* and *S. pyogenes*.
- **Caution**: No reports.



- **Arabic name**: Tayoon, Rasin, Qast Shami
- **Scientific name**: *Inula viscosa* (L.) Ait.
- **Common name**: Clammy Inula, False Yellow Head, Sticky Fleabane, Woody Fleabane, Yellow Fleabane
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Leaves, roots and rhizomes.
- **Chemical constituents**: Volatile materials, inulin, sugar complex, mucilage, oil (1-3%) named camphor helinin, potassium salt, three flavonoids (rhamnocitrin, 7-*O*-methylaromadendrin, and 3-*O*-acetylpadmatin), a sesquiterpene lactone, inuviscolide, a sesquiterpene acid, ilicic acid, and a digalactosyl-diacylglycerol, inugalactolipid A, terpene derivatives, azulenes, hispidulin, psi-taraxasterol acetate and camphor, thymol, carvacrol, eucalyptol, mono-, sesqui- and triterpenes, flavones, flavanones and carbohydrates, minor amounts of steroids, fatty acids, amino acids, aliphatic derivatives, benzenoids and inorganic salts. The oil contains borneol, bornyl acetate and isobornyl acetate.

  The main component of the essential oil is an L-borneol sesquiterpene, named tayunin. The aerial parts contained quercetol, quercetol 3-Me ether, and kaempferol 4'-Me ether. Sterol monoterpene of the oxygenated thymol type, namely p-cymene-3-methoxy-7-ol. Inuviscolide is the main sesquiterpenoid, tomentosin (sesquiterpenic lactones), saponin sterols, and carotenoids. The roots contain a volatile oil (1-3%), many medicinal compounds, inulin, sugar complex, saponins and an antolacton compound.

  The essential oil consists of α-copaene, theaspirane, naphthalene, endo-3-butyl-exo-4-methyl bicycle [4.3.0]non-1(9)-en-2-one, homoadamantane, caryophyllene oxide, farnesol, α-copaen-11-ol, 2-pentadecanone, α-longipinene, 9-aristolen-α-ol, 4,5-dihydro-5-oxo-3-(p-tolyl) isoxazole, selina-6-en-4-ol, calarene, α-eudesmol, β-eudesmol, (+-)-15-hexadecanolide β-costal, decanoic acid, 7-epi-amiteol,1.β,4,4-trimethyl-bicyclo(3.2.0)hept-6-en-2.α-ol,caryophylla-4(12),8(13) diene 5 β-ol, caryophylla-3 8(13)-dien-5.beta.-ol, vulgarol B, (+-)-3-methyl-1-penten-3-ol pentacosane, γ-costol, β-costol and benzoic acid), aldehyde, alcohols and ester, terpenes, monoterpenes ester and monoterpenic alcohols, homoterpene, acids, 1,8-cineole, o-cymene, eucalyptol, γ-terpinene, cis-sabinene hydrate, methyl benzoate, 4-terpinenyl acetate, (3e)-4,8-dimethyl-1,3,7-nonatriene, p-menth-2-en-1-ol, l-terpinen-4-ol, α-terpineol, ylangene, α-panasinsen, sativen, (c)-caryophyllene, isolongifolene, guaia-6,9-diene, α-gurjunene, α-humulene, alloaromadendrene, α-muurolene, α-cadinene, α-selinene, δ-cadinene, isovaleraldehyde, α-methylbutanal, n-hexanal, leaf aldehyde,

3-hexen-1-ol, 3-methylpentanol, α-thujene, α-pinene, camphene, sabinene, ß-pinene, myrcene, and (e)-nerolidol.

- **Pharmacological action**: The plant has balsamic, hypoglycaemic, antipyretic, tonic, antiphlogistic and antiseptic properties. It is used for kidney stones, anaemia, rheumatism, ringworms and furuncles. The sesquiterpene inhibits the growth of dermatophytes and, particularly, *Microsporum canis* and *Trichophyton rubrum*. The plant is diuretic, and is used for dry and rough skin and high blood pressure. It possesses anthelmintic properties, and good insecticidal, anti-implantational and luteolytic effects. It shows abortifacient effects in rats and antifungal action against *Dermatophytes* and *Candida* species. A plant decoction could effectively prevent and treat chemotherapy-induced nausea and vomiting. It is used in hypoglycaemic treatment.

  The plant is also effectively used for eye infections, muscle relaxation, infertility, open wounds, haemorrhoids, kidney stones, muscle aches, bone fractures, local paralysis, fever and headaches. The resin, when added to honey, is effective in alleviating rheumatism and colds, and acts as an aphrodisiac. Powdered leaves are applied on open or bleeding wounds or burns as a styptic and an effective antiseptic and antiphlogistic agent. The plant is antimicrobial and has potential applications in protecting against growth dermatophytes and *Candida albicans*, and as an antiphlogistic, antioxidant and antiulcer agent. It is also used against arthritis, bronchitis, mucus in the respiratory tract, respiratory system infections, hypertension and diabetes. Extracts of *Inula viscosa* possess anti-tussive and anti-gastroenteritis effects and cure urination and urinary system diseases. It has a high content of bioflavonoids, the powerful antioxidant tomentosin (sesquiterpenic lactones), saponins, a naturally-occurring foamy substance known to possess anti-cancer effects, sterols, and a cholesterol-lowering group of naturally-occurring chemicals. Flavonoid extracts protect against throat infections.

  In folk medicine, it is an astringent. It is used as an anti-inflammatory and antipyretic, and has gastric anti-ulcerous effects.

  The plant is a topical antipruritic, haemostatic and antimicrobial, used on surface wounds, and boiled in oil for myalgia. Gastroprotective and used for prostaglandin E_2 generation in rats with flavonoid extracts. Hispidulin affects guinea pigs' smooth muscles. It alleviates or cures various ailments. The drink "raesen", made from *Inula viscosa* and added to honey, is effective in alleviating rheumatism and colds, and acts as an aphrodisiac. It can be used as a powder or infusion as a tonic for the stomach, is an expectorant and diuretic, and treats gonorrhoea and enteritis, and dry leaves are used for burns. The root contains inulin that was previously used as a sugar substitute. The plant's decoction is used for nausea, vomiting and phlegmy coughs.

- **Other uses**: *I. viscosa* can be considered as a good biomonitor for roadside heavy metal pollution. The liquid obtained from the infusions presents considerable activity against hematophagous insects, mosquitoes, flies, and horseflies and also acts as a microbial inhibitor. The plant has potential applications in the protection of food crops, the protection of coatings against mould and mildew, the preservation of wood against fungal decay and in the prevention of the fouling of submerged marine structures. It has fungicidal activity against some plant pathogenic fungi.

  It is an invasive weed, and its plant extracts showed phytotoxic activity on several physiological processes of different species. Leaf extracts of *D. viscosa* exhibited nematicidal, insecticidal and antifungal activity. It has been used by local beekeepers as a means of controlling varroosis and costic acid, providing strong evidence of the acaricidal action of the acid against *V. destructor*. A yellow dye is obtained from the roots. The plant attracts many pollinating insects including bees, wasps and some butterflies to feed on it, an indication that the plant's volatiles do not act as repellents on bees.

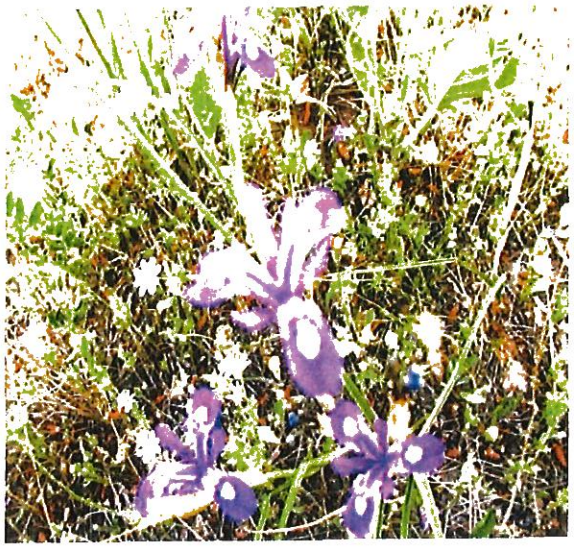
- **Caution**: Contact with the sesquiterpene lactones in *Inula viscosa* causes toxic-allergic dermatitis.

- **Arabic name**: Sabah Alkair, Finjan Al-Qadi
- **Scientific name**: *Ipomoea violacea* L.
- **Common name**: Railroadvine, Beach Morning-Glory
- **Family name**: Convolvulaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant.
- **Chemical constituents**: Alkaloids from the lysergic acid dimethyl amide group, such as elymoclavine and lysergamide, phenolic compounds, and glycolipids.
- **Pharmacological action**: The plant is sedative, cathartic and cleansing. It is used for asthma, head lice, ophthalmia, ailments and improves sight. It is also used for colon colic, rheumatism, jellyfish stings, diabetes, hypertension, constipation, exhaustion, arthritis, head dropsy, meningitis and nephritis. Some species have antimicrobial effects, and are sedative, hypotensive, anticoagulant, anti-inflammatory and anti-cancer.
- **Other uses**: A wild flower and common weed.
- **Caution**: The seeds are toxic, cause hallucinations and a lack of control, as well as a loss of feeling and unconsciousness. Leaves may accumulate a high level of toxic nitrates.

- **Arabic name**: Alsawsan Alaswad, Irq Al-Teeb, Iris, Sawsana Sawdai,
- **Scientific name**: *Iris nigricans* Dinsm.
- **Common name**: Black Iris
- **Family name**: Iridaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Rhizomes, leaves, and flowers.
- **Chemical constituents**: Essential oil (0.1-0.3%) made from oxidative terpenes, phenolic compounds (xanthones, flavonoids), saponins, acids including undecylenic, sulphuric and benzoic, linalool, geraniol, pelargonic acid, fatty material, isoflavones and xanthones. In the rhizomes are xanthones, sesquiterpenoids, and two new isoflavones, 4'-hydroxy-5-methoxy-6,7-ethylenedioxy isoflavone (nigricin) and 4'-hydroxy-5,3'-dimethoxy-6,7-methylenedioxyisoflavone (nigricanin), along with 5,4'-dihydroxy-6,7-methylenedioxy isoflavone (irilone), 5,3'-dihydroxy-4',5'-dimethoxy-6,7-methylenedioxy isoflavone, ferulic acid, □-sitosterol and sucrose, acetovanillone, and a xanthone compound named mangiferin. The chief constituents of the root are the oil, an odourless myristic acid, fat, resin, starch, mucilage, a bitter extract, the glucoside iridin, ketone and iron.
- **Pharmacological action**: The plant is an expectorant, laxative and diuretic. It is used for gingivitis, teeth problems and diarrhoea. Plant powder is a snuffer to expel nasal mucus and open the nose. The oil paste cures some allergic diseases and eczema. The plant's oil is used for tumours and external swellings, cures throat sores, hoarseness and kidney, cystitis and rheumatism ailments. It is also used in cases of respiratory tract inflammations and asthma, and as an anti-toxicant. It helps heal deep wounds, rashes, acne and is effective against insect stings. The iridine is emetic and the flowers' essential oil is sedative. Aged rhizomes produce an oily compound known as "iris butter", which is used in the perfume industry. The plant extract is an antioxidant, antibacterial, antiviral, anti-fungal of *Candida albicans,* anti-carcinogenic, cardioprotective, vasodilator, antiphlogistic, anti-allergic, hepatoprotective and antithrombotic.
- **Other uses**: The root's oil is largely manufactured for the perfume trade in making colognes and handkerchief extracts. The plant is included as an aromatic material in perfumes, removes halitosis and is included in many types of toothpaste. The plant is a wild flower.

❖ **Caution:** Animal toxication is usually associated with stomach and intestinal inflammations, vomiting, diarrhoea, and sometimes bleeding and a high body temperature. In humans, toxicity is shown in the form of inflammations and skin rashes.

The rhizomes



Different *Iris* species

- **Arabic name**: Sfair, Haqeeba Halabiyah
- **Scientific name**: *Isatis lusitanica* L.
- **Common name**: Aleppo Woad
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Roots and the whole plant.
- **Chemical constituents**: 3-enyl isothiocyanate liberated from glucosinolates compounds due to the myrosinase enzyme.
- **Pharmacological action**: The plant shows anti-fungal activity.
- **Other uses**: The leaves are a source of blue pigments, and the plant is regarded as a wild flower.
- **Caution**: Isothiocyanate causes allergy and dermatitis.

Umm an Na'am, Al Mafraq

- **Arabic name:** Zenbaq Azraq, Zeitman, Zeitman Azraq, Khuzama Al-Jabal
- **Scientific name**: *Ixiolirion tataricum* (Pallas) Herbert
- **Common name**: Siberian Lily, Lavender Mountain Lily, Blue Desert Lily
- **Family name**: Amaryllidaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Flowers, roots, bulbs, and aerial parts.
- **Chemical constituents:** Essential oil from the aerial parts, of which the main constituents are 2-phenylethyl phenylacetate (16.8%), β-selinene (14.8%), bicyclovetivenol (4.8%), thymol (4.3%) and (E)-chalcone (4.3%). Consequently, monoterpenoids (44.2%) are the major group of components in the essential oil of the plant. In the bulbs, alkaloids, glycosides, sugar and resin are present.
- **Pharmacological action**: It is an astringent. People tend to use the bulb extract of succulent hairs as vegetables, and the plant extract as a cure for stomach diseases in children. Bulbs are used for skin diseases. The 2-phenylethyl phenylacetate is the main constituent of the oil; it is highly stable and thus suitable in detergents and aromatic soap. It is a main softwood stabilizer, used in tobacco and oriental perfumes, and hence supports musk perfumes.
- **Other uses**: A wild flower.
- **Caution**: No reports.

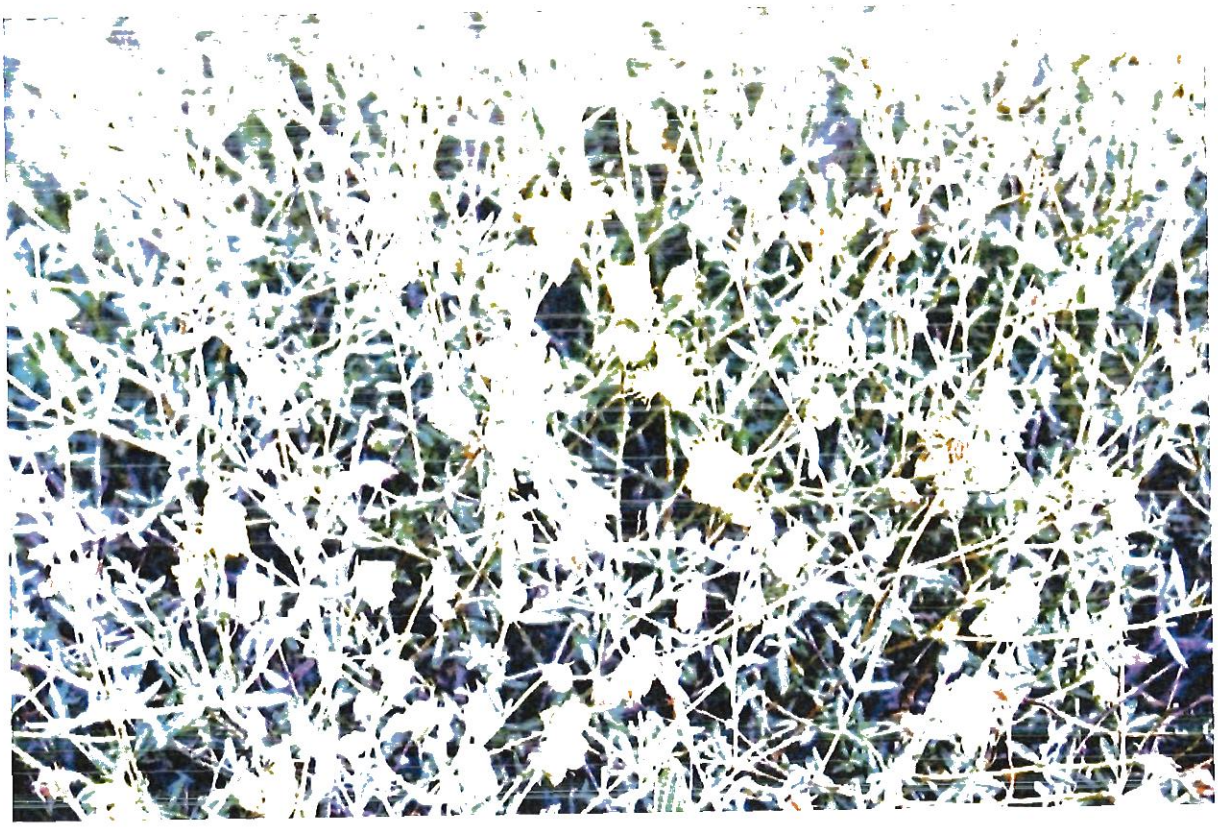
In the field

- **Arabic name**: Asal
- **Scientific name**: *Juncus acutus* L.
- **Common name**: Sharp Rush, Spiny Rush, Leopold's Rush, Prickly Sea-Rush
- **Family name**: Juncaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Stem, aerial parts, roots, rhizomes, and the whole plant.
- **Chemical constituents:** Oil, fibre, fatty acids, cyanide, cyanogenic glycosides, juncunol, benzocoumarins, dihydrophenanthrene and phenanthrenoids.
- **Pharmacological action**: The plant is anti-eczema and stomachic. The plant extract, including the isolated compound juncunol, has potential anti-trypanosomal activities. Species belonging to the *Juncus* genus are one of the most prolific sources of phenanthrenes, which have several biological activities, including anti-proliferative, antioxidant, antimicrobial and cytotoxic activities. Phenanthrenoids and benzocoumarins obtained from the rhizome of *J. acutus* have *in vitro* phytotoxicity, antialgal and anti-inflammatory activities. Juncunol is a dihydrophenanthrene and has previously been isolated from different *Juncus* species, including *J. acutus*.
- **Other uses**: It is an oil, fibre and timber plant. The stems are used in making woven baskets, thatching and weaving mats. The seeds are rich in fatty acids and are possibly used as a potential oil source for different purposes. It is an ornamental and industrial species. It is a common species in water and marshes.
- **Caution**: Although no reports of toxicity have been seen for this species, there is a report that mentions that one member of this genus is possibly toxic to mammals, causes allergies or is otherwise toxic to humans, and is unpalatable to grazing animals.

Juncus population

In waterways with *Typha* spp.

- **Arabic name**: Asal
- **Scientific name**: *Juncus maritimus* Lam.
- **Common name**: Sea Rush
- **Family name**: Juncaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Rhizomes, roots, leaves, seeds, and flowers.
- **Chemical constituents**: Mineral elements (lead, chrome, calcium, copper, nickel, iron, manganese, zinc) and phenolic compounds.
- **Pharmacological action**: The plant is anti-eczema and used against some skin diseases. The rhizomes are recommended for insomnia, and are antioxidant, antivirus and antibacterial. The stem medulla of *Juncus effuses* (L.) is a sedative and antipyretic agent used in Chinese and Japanese folk medicine.
- **Other uses**: It is an oil, fibre and timber plant. The leaves are used for the traditional manufacture of baskets, the net of large wooden sieves, and mats, and the culms are used as raw materials in the paper industry. The leaves are also used for decoration with other species of *Typha*. The plant is an ornamental and industrial species. It is common in marshes.
- **Caution**: No reports.

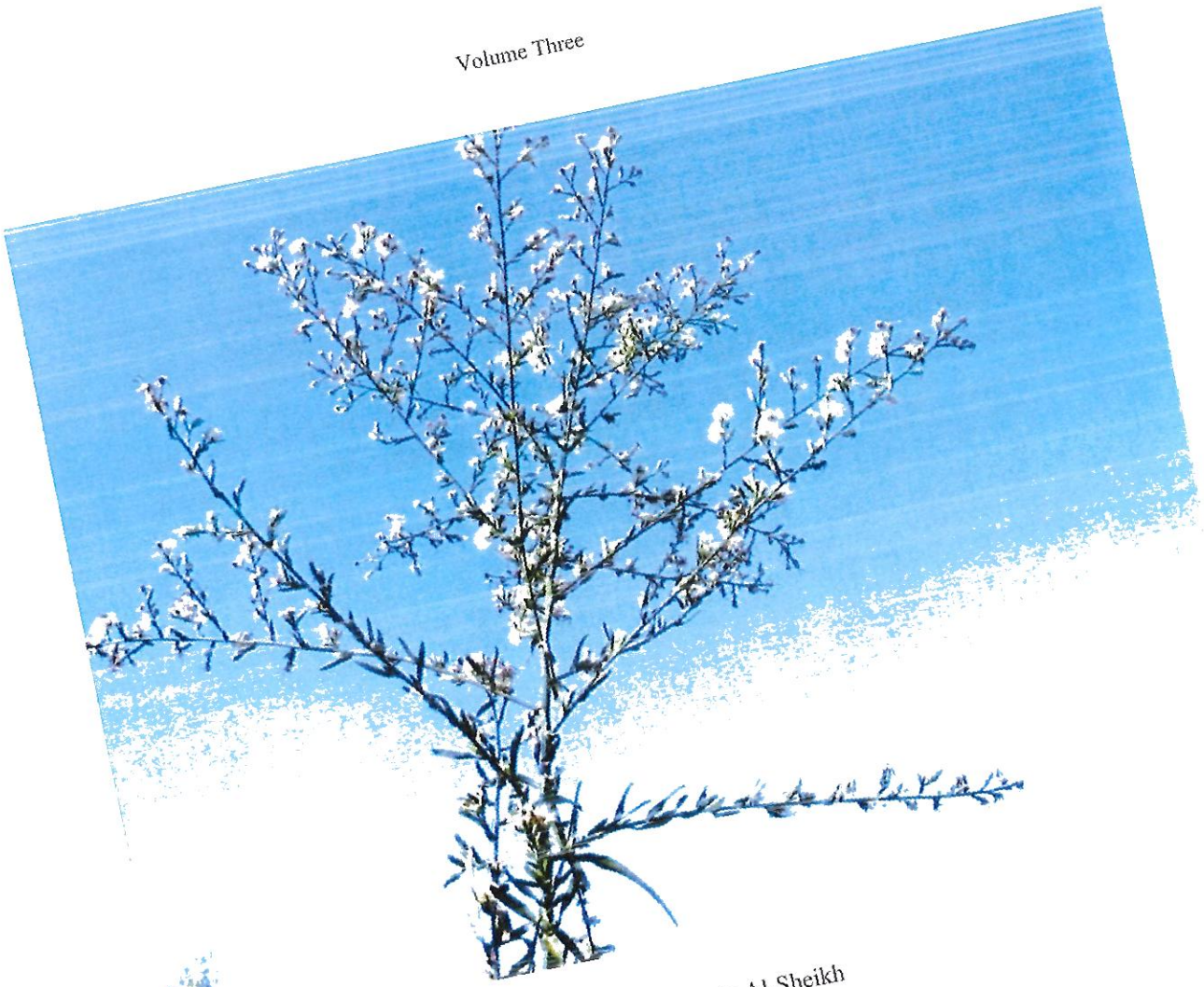


- **Arabic name**: Sfaira
- **Scientific name**: *Kickxia aegyptiaca* (L.) Nabelek
- **Common name**: Egyptian Toadflax
- **Family name**: Scrophulariaceae
- **Growth habit**: Sub-shrub
- **Life cycle**: Perennial
- **Part/s used**: Vegetative parts.
- **Chemical constituents**: Iridoid glucosides, 6-acetylantirrinoside, and flavonoids.
- **Pharmacological action**: The plant is an antioxidant.
- **Other uses**: It is a forage plant and a wild flower.
- **Caution**: No reports.

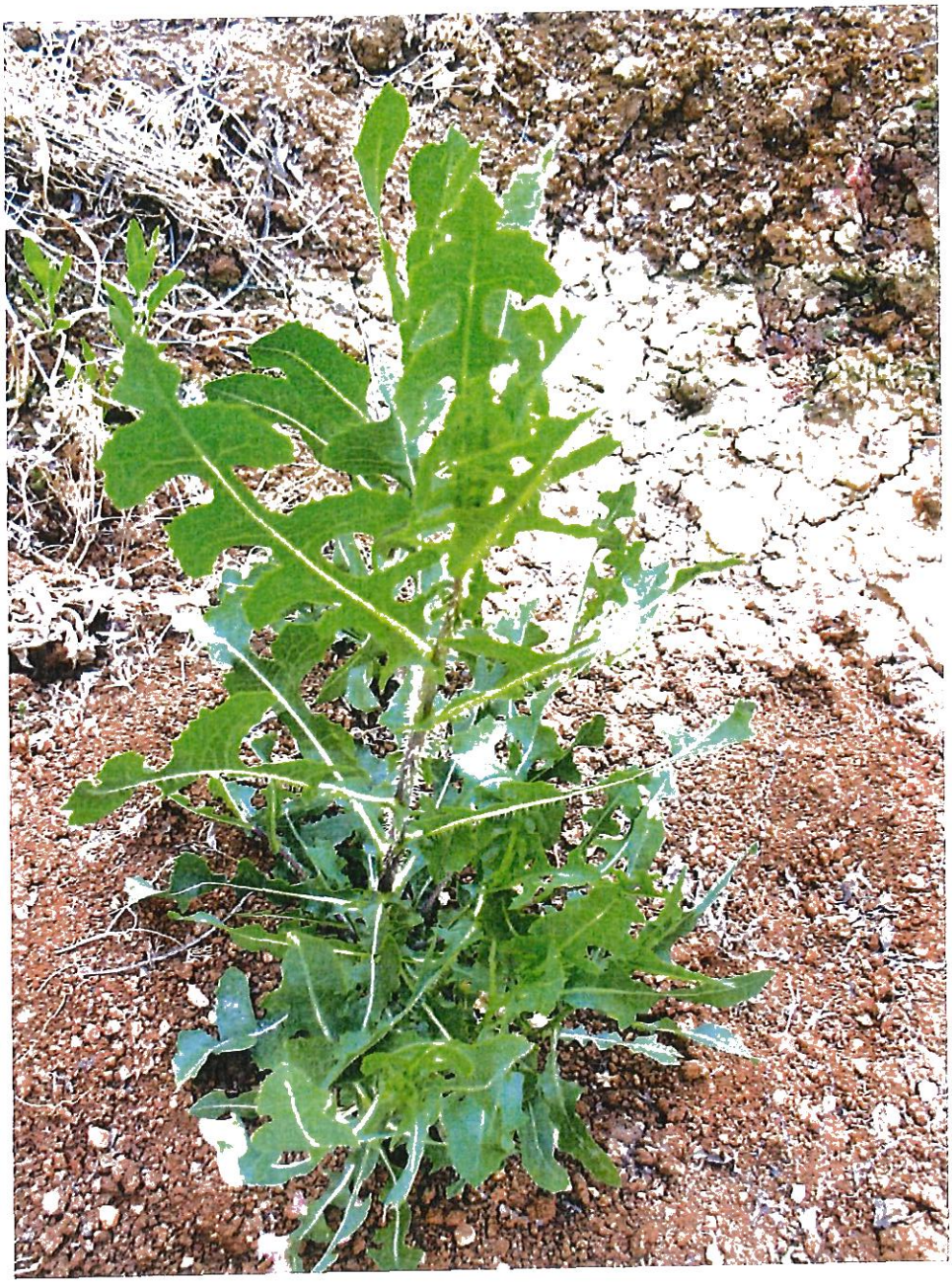
- **Arabic name**: Kelabih
- **Scientific name**: *Koelpinia liniaris* Pall.
- **Common name**: Small Nipplewort
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Aerial parts.
- **Chemical constituents**: Long-chain alkanoic acid esters of lupeol, triterpenoids, taraxerol acetate, and germanicol.
- **Pharmacological action**: The plant is used for arthritis, lymphatic diseases, stomach gases, bone inflammations, digestive system disorders, bone fractures and inflammation.
- **Other uses**: The plant is edible raw.
- **Caution**: No reports.

In the field

- **Arabic name**: Khass Sharqi, Shukhais, Fattera, Khass Barri
- **Scientific name**: *Lactuca orientalis* (Boiss.) Boiss.
- **Common name**: Oriental Lettuce
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Latex.
- **Chemical constituents**: Lactucin and its derivatives, lactucopicrin and 11β,13-dihydrolactucin.
- **Pharmacological action**: It is sedative, narcotic, soothing, and hypnotic. The paste of flower heads is applied on the forehead for headaches. Some of the active constituents have analgesic activity in laboratory mice. Lactucin and lactucropicrin were also found to have sedative activity in measurements of the spontaneous movements of mice.
- **Other uses**: The whole young plant is edible raw.
- **Caution**: Oriental lettuce should be used only under strict medical supervision. It should never be collected and used for self-medication. Even normal doses can cause drowsiness whilst excess use causes restlessness, and overdoses can cause death through cardiac paralysis.



- **Arabic name**: Khass Al-Baqar, Khass Bari'i, Lubain Al-Sheikh
- **Scientific name**: *Lactuca saligna* L.
- **Common name**: Willow-leaved Lettuce
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual or Biennial
- **Part/s used**: Leaves, seeds, and the whole plant.
- **Chemical constituents**: Lactucarium, B-carotene, lutein, and chlorophyll.
- **Pharmacological action**: The plant is used for cardiac diseases. There is increasing medical evidence for the health benefits derived from the dietary intake of this plant and other *Lactuca* spp. It is refreshing, tonic, digestive, carminative and diuretic. It is a cure for colic gripes, catarrh, bronchitis, and typhoid fever.
- **Other uses**: Leaves and stems are cooked and used in salads and soups. The plant is a common weed.
- **Caution**: No reports.



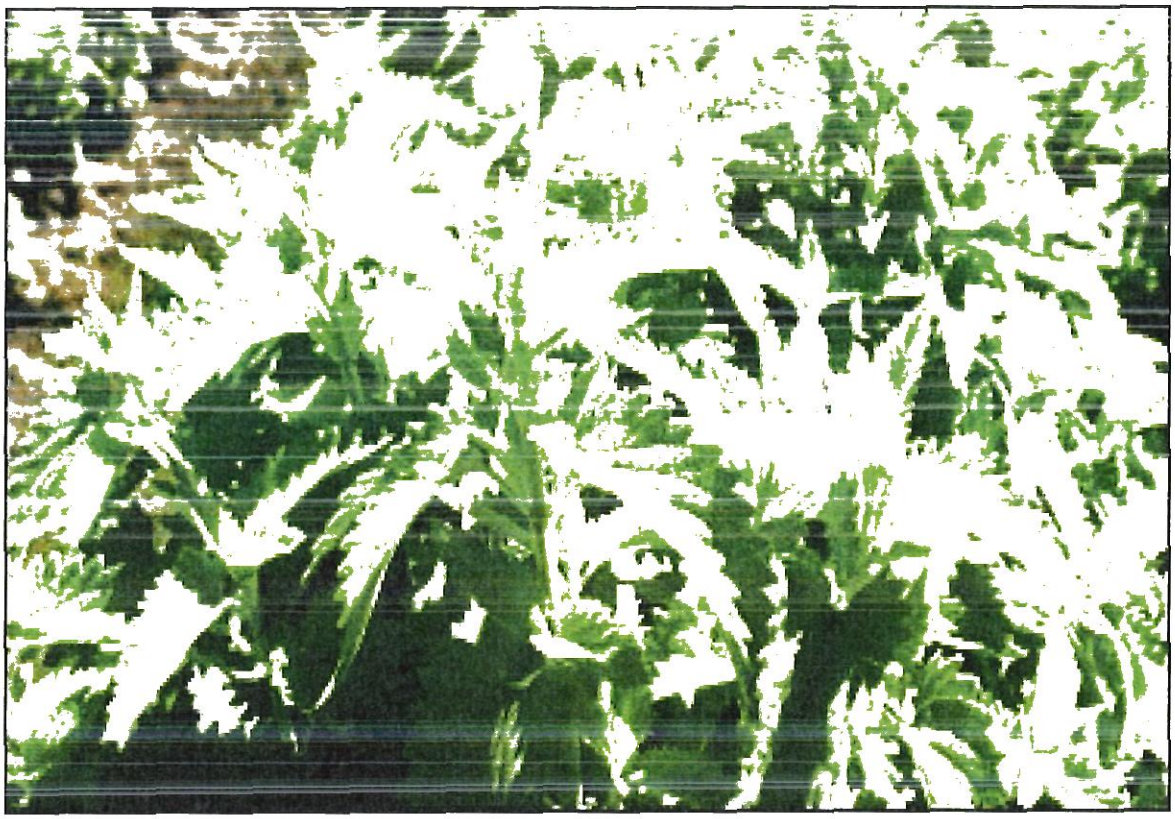
- **Arabic name**: Khas Barri, Shukhais, Khas Shaeik,Lubain, Khas al-Baqar
- **Scientific name**: *Lactuca serriola* L.
- **Common name**: Prickly Lettuce
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual or Biennial
- **Part/s used**: Latex, flowering stems including leaves, and the whole plant.
- **Chemical constituents**: The plant is rich in lactucarium and latex (rich in calcium), lactucin, lactoferrin, chlorophyll, mineral elements, vitamins, bitter materials, hyoscyamine, organic acids and mucilage. In addition, alkaloids, especially lactucin, lactucopicrin, caoutchouc, proteins, sesquiterpene ester (guaiane ester) and five known guaianolides are also present. The seed oil contains myristic (0.3%), palmitic (6.6%), stearic (2.0%), oleic (31.9%), linoleic (57.8%) and linolenic acids (1.3%).
- **Pharmacological action**: The sap contains lactucarium, which is anodyne, antispasmodic, hypoglycaemic, digestive, diuretic, hypnotic, narcotic and sedative. It is used internally for the treatment of insomnia, anxiety, neuroses, hyperactivity in children, dry and whooping coughs and rheumatic pain. The fixed oil from the seeds is said to possess antipyretic and hypnotic activities. A homeopathic remedy is made from the plant. It is used in the treatment of chronic catarrh, coughs, swollen liver, flatulence and ailments of the urinary tract.

In folk medicine, a leaves decoction is used as an antidote for scorpion and snake toxins. It was previously used as a narcotic in child drugs as an opium substitute.

- **Other uses**: A wild flower and common weed.
- **Caution**: The plant should be used with caution, and never without the supervision of a skilled practitioner. Even normal doses can cause drowsiness whilst excess use causes restlessness and overdoses can cause death through cardiac paralysis. Old plants are toxic because of the lactucin and lactucopicrin content. Animals fed on the plant showed flatulence, indigestion and general weakness, especially in cows. Small new branches are toxic, but the level of toxicity decreased with age and after drying.

At different vegetative growth stage

- **Arabic name**: Khus Barri, Khus Al-Zeet, Khus Al-Samm, Lubeinah
- **Scientific name**: *Lactuca virosa* L.
- **Common name**: Greater Prickly Lettuce, Great Lettuce, Wild Lettuce, Bitter Lettuce, Laitue Vireuse, Opium Lettuce, Poisonous Lettuce, Rakutu-Karyumu-So.
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual or Biennial
- **Part/s used**: Latex, flowering stems, leaves, and seeds.
- **Chemical constituents**: The latex includes lactucarium, sesquiterpene lactones, neolignan glycosides, guaianolide glycosides, lactucin, an unstable bitter principle (lactucin) and lactucopicrin. The bitter principle and a sesquiterpene of the guaianolide series are the main ingredients of the latex. Alkaloids, proteins, organic acids, mucilage, vitamins A, B_1, C and E, fatty oils, starch, mineral elements (calcium, phosphorus, iron) and flavonoids are also present.
- **Pharmacological action**: It is a mild sedative, anodyne, hypnotic, diuretic, antispasmodic, febrifuge, diaphoretic and hypoglycaemic. Lactucin and lactucopicrin antagonize the action of coffee and tea. The plant removes kidney sand and gravel, cures gout, dropsy, intestinal colic disorders, and dry coughs, and it is an emmenagogue. High doses increase blood levels during monthly periods.
  The effects of ingesting *L. virosa* are similar to opium, although opiates are not found in the plant. However, wild lettuce has a similar though weak opium effect and cultivated lettuce has a similar effect but to a lesser extent. One of the active compounds, lactucin, is an adenosine receptor antagonist, while another, lactucopicrin, has been shown to act as an acetylcholinesterase inhibitor. The plant has been used as an anaesthetic and recreationally. Plant oils and extracts are often added to tea to help induce sleep. It is a galactagogue, and the plant contains flavonoids, which have strong antioxidant activity. The plant is good for ophthalmia, sores and trachoma. It is a vision tonic because of the vitamin A content.
- **Other uses**: The greens are added to salads, though the leaves are more bitter than other salad greens. Dried leaves or a sticky precipitate extracted from the leaves are smoked. The leaves and their oil are edible.
- **Caution**: It is poisonous, although cases of poisoning by this plant have only been recorded very rarely. Great lettuce should be used only under strict medical supervision. It should never be collected and used for self-medication. Even normal doses cause drowsiness whilst excess use causes restlessness and overdoses can cause death due to cardiac paralysis.



- **Arabic name**: Lamium
- **Scientific name**: *Lamium album* L.
- **Common name**: White Deadnettle, Archangel
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Flowering tops, flowers, flowers without calyx, leaves and other aerial parts.
- **Chemical constituents**: Saponins, mucilage, tannins, flavonoids glycosides, tyramine, methylamine, potassium salt, flavonols rutin, quercetin, kaempferol, vitamin C, ascorbic acid, histamine and choline (which probably explains its anti-haemorrhagic action). The flavonols may also contribute to the plant's haemostatic action. The plant also contains starch, sucrose and raffinose-family oligosaccharides, water-soluble polysaccharides, ecdysteroids (abutasterone, inokosterone, polypodine B and pterosterone), glucosides, lamalbid, new iridoid alkaloids, hemialboside, a hemiterpene glucoside, phenylpropanoid glycosides, lamalboside (2R-galactosylacetoside) and the known acetoside. Flowers contain protocatechuic, syringic and gentisic acids, mucilage, tannic acid, amino acids, aromatic oil, potassium, glycosides, fatty oil, saponins, isoquercitrin, aminourgin acid, ferulic acid, the flavonol p-coumaroyl glucoside, tiliroside, and 5-caffeoylquinic acid (chlorogenic acid in all the organs), along with rutoside, kaempferol 3-O-glucosides, polyphenols including quercimeritrin as the main component, lamioside, chlorogenic and caffeic acids and o-dihydroxyphenolic compounds of the caffeic acid type. Three saponins and 4 glycols are found in leaves and flowers, as well as ferulic acid. In leaves are iridoid glucosides and the p-hydroxybenzoic and p-coumaric proteins, and isoferulic and vanillic acids are present in leaves and flowers. Amino acids constitute a popular gynaecological drug. The plant's chief constituents are tannin, invertible sugar, potassium salts, a saponin, triterpenoid saponins, phenol-carboxylic acids and flavonoids. This herb also contains betaine stachydrine, rosmarinic acid and similar compounds and traces of essential oil.
- **Pharmacological action**: The plant is cleansing, detoxicant, analgesic, diuretic and excitant, and it is an expectorant, stimulant and anti-diabetic. The plant cures arthritis, is a pain alleviator and is used for bladder health maintenance. It is also used for ophthalmia, haemorrhoids, gastritis, enteritis, nephritis, dermatitis, furuncles, wounds, eczema, bone and joint pain, bronchitis, bruises, catarrh (upper respiratory mucous), coughs, flatulence, gastrointestinal disorders, liver health maintenance, menopause, menstrual disorders, as a poultice, for respiratory health maintenance, dermatitis, sore throat and mouth, urinary system infections, varicose veins (topically), whooping cough and wounds. Externally, it alleviates burns ailments. Internally, it is used by girls suffering from anaemia, a weak body, menstruation disorder, leucorrhoea and acute burning

in the sexual organs. It is regarded as a uterus disinfectant in certain cases. The plant cures enuresis, urination disorders in benign prostatic patients and cystitis, psychological disorders and hearing weakness. It is a remedy for exanthema, itching in children and pig disease, and is useful for malaria, diarrhoea, dysentery and uterus bleeding. It is an antipyretic, expectorant, and aphrodisiac, and it also helps erections and removes tumours, furuncles near the ear and carcinogenic ulcers.

Cosmetics containing ubiquinone prevent skin roughness and improve skin elasticity. Ubiquinone is included in shampoo compositions for straightening hair, in skin compositions providing improved skin-lightening effects, and hair preparations. In cosmetics, it shows an improved astringent effect. Dyes and triterpenic saponins have clear antiphlogistic activity. Both the extracts and the triterpenic saponins possess moderate diuretic activity. Triterpenic saponins cause dose-dependent short-term hypotension, and have astringent, tonic and hypnotic properties. An infusion is used for ailments of the upper respiratory tract, insomnia, and urinary and gynaecological disorders. This includes its use for gastrointestinal ailments such as mucosa irritation, wind and fullness, and it has anti-microbial activity. The seeds are cathartic and anti-vomiting.

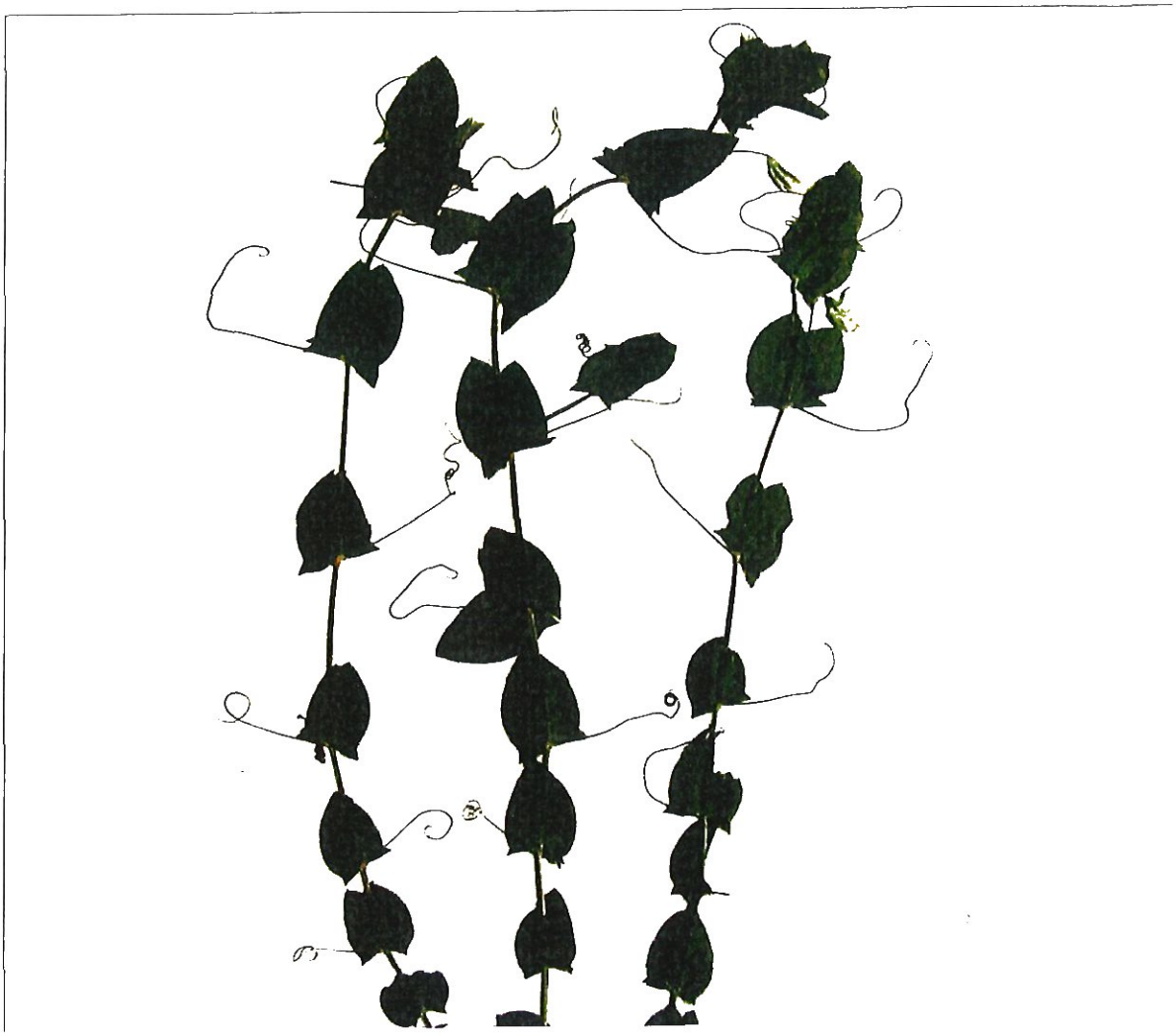
- **Other uses**: A wild flower.
- **Caution**: No reports.

Plant population in the field

- **Arabic name**: Qurees Aljaji, Qurass Kathib, Lamion Multaf Al-Saq
- **Scientific name**: *Lamium amplexicaule* L.
- **Common name**: Henbit, Henbit Dead-Nettle
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves, small branches, flowers, stems, and the whole plant.
- **Chemical constituents**: Flavonol glycosides, kaempferol 3-*O*-[β-D-glucopyranosyl-(1->4)][α-L-rhamnopyranosyl-(1->6)]-β-D-glucopyranoside, quercetin 3-*O*-[β-D-glucopyranosyl-(1->4)][α-L-rhamnopyranosyl-(1->6)]-β-D-glucopyranoside, flavonoids, benzene carboxylic acids, esters, phenolics, quinones, cyclic alkanes, alkenes, long-chain alcohols, diones, essential oil (the main constituent of which is trans-chrysanthenyl acetate), iridoid glucosides, terpenoids, mucilage, tyramine and choline.
- **Pharmacological action**: The plant is antirheumatic, diaphoretic, febrifuge, laxative, stimulant, excitant, astringent, diuretic, purgative, styptic and tonic. It arrests haemorrhages, the spitting of blood and dysentery. It is a blood purifier for rashes, eczema, and scabies, and is used for the healing of green wounds, haemorrhoids, fever, bruises and burns. It removes spleen sclerosis and is supposed to be the seat of melancholy. In folk medicine, a decoction with wine is used as a plaster for the region of the spleen, and is also used as a fomentation. When bruised and mixed with salt, vinegar and lard, it has proved useful in the reduction of flatulence and swellings and also to ease gout, sciatica and other pains in the joints and muscles. The plant is an expectorant, and is used in the treatment of prostatitis and uterus disorders, and as a tincture for respiratory infections and bronchitis. A fresh leaves paste is applied topically for joints swelling.
- **Other uses**: Young shoots and leaves in the early spring can be combined with other spring herbs in fresh salads and potherbs recipes. The leaves and upper plants are cooked as potherbs. The plant is very nutritious and rich in iron, vitamins and fibre. It is also melliferous.
- **Caution**: Toxins from this species lead to staggering and other toxicity responses in animals (sheep, horses and cows).

- **Arabic name**: Lamium, Ragbat Al-Gamal, Kurees
- **Scientific name**: *Lamium moschatum* Mill.
- **Common name**: White Dead Nettle, Archangel, Dead Nettle, Musk Dead Nettle
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Flowers
- **Chemical constituents**: Acteoside, rutin, 20-hydroxy ecdysone and 3,7-dimethoxy quercetin.
- **Pharmacological action**: The plant possesses astringent, antiphlogistic, expectorant, diuretic, tonic and hypnotic properties. A plant infusion is used for ailments of the upper respiratory tract, bronchitis, insomnia and urinary and gynaecological disorders. A stem tip infusion is a styptic used for prostatitis and uterus disorders.
- **Other uses**: Young stems are edible raw.
- **Caution**: No reports.

Population in the field



- **Arabic name**: Shawarib Al-Bis, Braid, Burj Al-Hamam
- **Scientific name**: *Lathyrus aphaca* L.
- **Common name**: Yellow Vetchling, Yellow Pea
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Seeds
- **Chemical constituents**: Phytates, divicine, and a mixture of alkaloids. Potential beta-N-oxalyl-L-alpha, beta-diaminopropionic acid (ODAP) and beta-aminopropionitrile (BAPN). Toxic amino acids are present in seeds.
- **Pharmacological action**: Dried seeds' powder is mixed in tobacco and used as a narcotic, and it has a soothing effect.
- **Other uses**: A wild flower.
- **Caution**: The seeds and maybe the whole plant are poisonous when fresh, but after being well cooked the effects are nullified. The seeds containing toxic amino acids cause a severe disease of the nervous system known as lathyrism when eaten in large amounts.

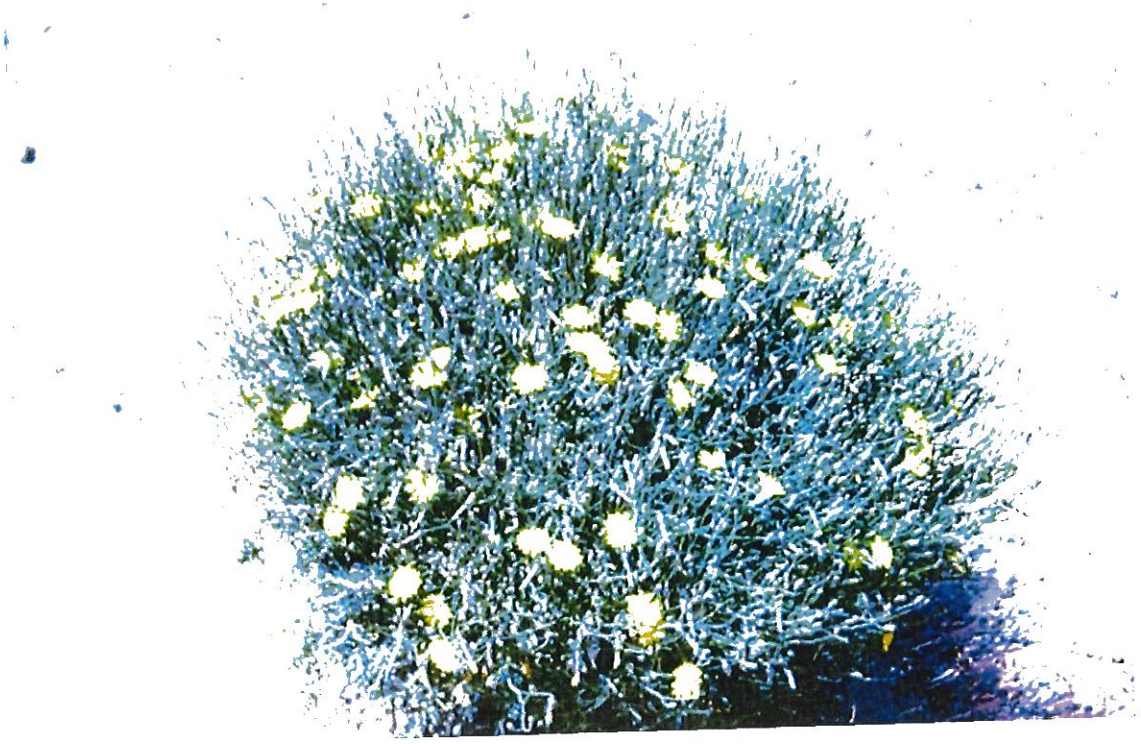
- **Arabic name**: Jelbani, Saisa'a
- **Scientific name**: *Lathyrus blepharicarpus* Boiss.
- **Common name**: Ciliate Vetchling
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Seeds
- **Chemical constituents**: Cosmpounds in seeds of the *Lathyrus* species include phytates, divicine, and a mixture of alkaloids. Potential beta-N-oxalyl-L-alpha, beta-diaminopropionic acid (ODAP) and beta-aminopropionitrile (BAPN).
- **Pharmacological action**: The plant is externally used in folk medicine for skin diseases, since lathyrism appears to be the result of toxicity caused by several compounds if internally taken, including a neurotoxin that is associated with neurolathyrism in animals and humans.
- **Other uses**: The plant is possibly used as an ornamental. Some *Lathryus* species are eaten, many are cultivated as garden plants of different flower colours, and other species are grown for food, including *L. sativus* and *L. cicera*.
- **Caution**: Lathyrism appears to be the result of toxicity resulting from this species and others of the same genus. The lack of vitamins A, B, and C in these seeds may enhance their neurotoxicity.

- **Arabic name**: Saisai, Saisa'a, Jilban
- **Scientific name**: *Lathyrus cicera* L.
- **Common name**: Chickling Vetch, Red Pea, Dwarf Chickling
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Seeds
- **Chemical constituents**: Moisture, essential amino acids, fat, cystine, protein, methionine, ash, threonine, valine, isoleucine, starch, leucine, lignin, phenylalanine, nitrogen-free extractives, lysine, histidine and arginine. In addition, seeds contain phenolics and glycosylated flavonoids including flavonol-3-O-di-/tri-glycosides-7-O-rhamnosides and other flavonol-glycosides, and flavonol-3-O-(cinnamoyl)glycoside-7-O-rhamnosides, flavonol-3-O-(dihydrophaseoyl, cinnamoyl)glycoside-7-O-rhamnosides and flavonol-3-O-(malonyl)glycoside-7-O-rhamnosides. Glycosides of kaempferol are the main flavonoids (non-acylated and acylated), followed by those of quercetin and those of isorhamnetin, apigenin and luteolin. The most abundant flavonols are kaempferol-3-O-(2-hexosyl) hexoside-7-O-rhamnosides.
- **Pharmacological action**: Its consumption causes a disabling neurological disease referred to as lathyrism, and it has been reported to cause osteolathyrism. The structure of the liver affects the poisonous properties of *L. cicera*.
- **Other uses**: It is sometimes cut green for fodder. It is regarded as a wild flower.
- **Caution**: The seeds and maybe the whole plant are poisonous but not when cooked. The seeds contain toxic amino acids that cause lathyrism when taken in high amounts.

- **Arabic name**: Jelbani, Saisa'a
- **Scientific name**: *Lathyrus sativus* L
- **Common name**: Vetch
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Seeds
- **Chemical constituents**: Protein, amino acids, and unsaturated fatty acids including linoleic, oleic, and palmitic in the seeds. Dry seeds contained between 0.02-2.5% of the neurotoxic ß-N-oxalyl-α,ß-diaminopropionic acid (ß-ODAP) and ß-N-oxalylamino-L-alanine (BOAA).
- **Pharmacological action**: The plant has an effect on skin diseases.
- **Other uses**: It is a food in famine time, and the seeds and flowers are animal feed. It is a forage plant and a wild flower with nice flowers and a light aromatic smell.
- **Caution**: The plant must be avoided by persons with a high sensitivity to allergies, pregnant and nursing women, as well as by neurological disease patients and those with blood coagulation disorders. Use of the seed may give rise to health concerns and thus it is rarely used. Neurolathyrism with the symptoms of irreversible spastic paresis is seen after ingestion of the seeds. Little information is available on the toxic dose for humans.

- **Arabic name**: Hindiba'a, Hothan, Lussage, Howa Ghanam, Hawa'a, Hindiba'a Al-Hamad, Ghazal.
- **Scientific name**: *Launaea nudicaulis* (L.) Hook. f.
- **Common name**: Launaea, Naked Launaea
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves and latex.
- **Chemical constituents**: Alkaloids, flavonoids, proteins, tannins and carbohydrates.
- **Pharmacological action**: The milky material is used for constipation, and the leaves are antipyretic, and possess antibacterial and antifungal activities. It is a febrifuge, overcomes fever and excessive bleeding after childbirth and painful micturition. The plant shows hypoglycaemic effects. Some of these species are traditionally used to treat oxidative stress of the liver and increase milk secretion.
- **Other uses**: It is a common herb and weed species.
- **Caution**: No reports.

- **Arabic name**: Hindiba'a Shawkiya, Lusaq Shawki.
- **Scientific name**: *Launaea spinosa* (Forssk) O. Kuntze
- **Common name**: Launaea
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Aerial parts.
- **Chemical constituents**: A phenolic compound identified as 2,3-diferulyl R,R-(+) methyl tartrate, esculetin, esculetin-7-O-d-glucoside (cichoriin), fertaric acid, acacetin-7-O-d-glucoside, and acacetin-7-O-d-glucuronic acid.
- **Pharmacological action**: The plant is antibacterial, anti-diarrhoeal and antispasmodic. It is used for colic and intestinal diseases. The major phenolic compounds isolated from *L. spinosa* displayed a significant cytoprotective effect against oxidative stress, leading to the maintenance of the normal redox status of the cell.
- **Other uses**: A wild flower and common weed.
- **Caution**: No reports.



L. spinosa

- **Arabic name:** Kamoon Kathib, Kamoon Bari'i
- **Scientific name:** *Legoecia cuminoides* L.
- **Common name:** Wild Cumin, False Cumin.
- **Family name**: Umbelliferae / Apiaceae
- **Growth habit**: Herb
- **Life cycle:** Annual
- **Part/s used:** Aerial parts.
- **Chemical constituents**: Polyphenol compounds, 2,2-diphenyl-1-picrylhydrazyl, chlorogenic acid, hesperidin, rosmarinic acid, hesperetin and vanillin.
- **Pharmacological action**: It is an antioxidant that can effectively scavenge radicals.
- **Other uses**: A wild flower and common weed.
- **Caution**: No reports.

- **Arabic name**: Mahda, Kaff al-Sabei'i, Khamerat Athar, Tuqtaiq, Tuqai'i, Orff Al-Deek
- **Scientific name**: *Leontice leontapetalum* L.
- **Common name**: Lion's Leaf, Rakaf
- **Family name**: Berberidaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Tubers, root, and leaves.
- **Chemical constituents**: Quinolizidine alkaloids, leonticin, betalin, lupanine, leontiformidine, oblongine chloride, quettamine-type alkaloids, isoquinoline alkaloids, isorhamnetin-3-rutinoside (narcissin), quercetin-3-glucoside. Alkaloids in tubers include □-isolupanine, 3-(2-piperidinyl) quinolizidine (named leontiformidine), (+)-lupanine, leontiformine, palmatine, tetrahydropalmatine, d-leontiformine, as well as saponins, mucilage and resin.
- **Pharmacological action**: The tuber is used as a cure for epilepsy, leprosy, migraines, skin diseases and burns. It is used by nursing women to increase lactation and is said to be an antidote to opium and a tonic.
- **Other uses**: The tuber is used in washing clothes as a soap substitute, and old plants are used as fuel. It is a wild flower.
- **Caution**: The tuber is toxic, and depletes the respiratory system and distends the heart.

Tuber

Plant at other growth stage

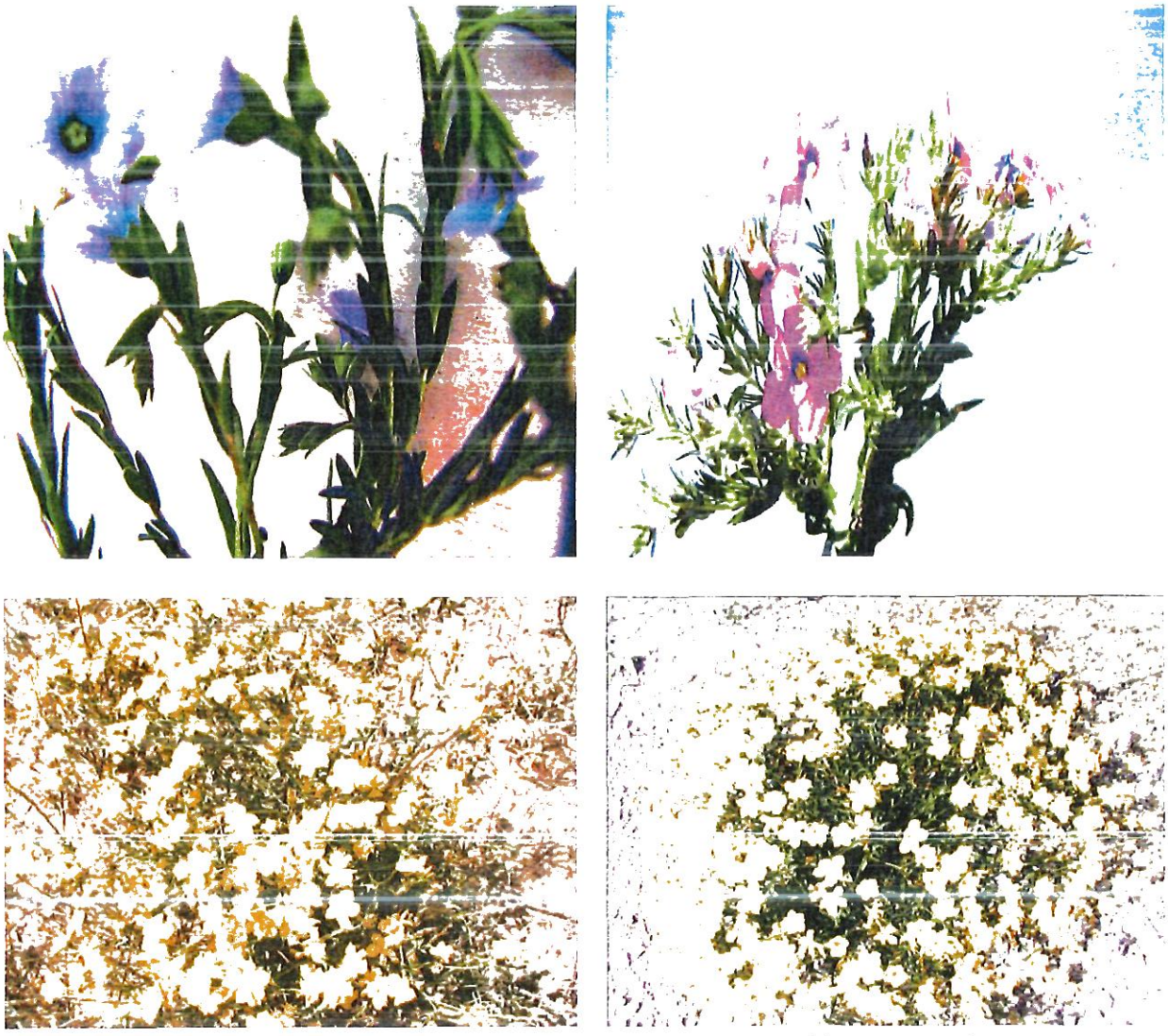
Flowering plant showing basal leaves

- **Arabic name**: Rebian Jabali
- **Scientific name**: *Leontodon tuberosus* L.
- **Common name**: Rough Hawkbit, Dandelion
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant.
- **Chemical constituents**: Flavonoids, terpenoids, alkaloids and proteins. The genus *Leontodon* is a rich source of hypocretenolides, unique guaiane-type sesquiterpene lactones. Phenolics found in the *Leontodon* genus include luteolin-type flavonoids and caffeoylquinic acid derivatives such as chlorogenic acid, 3,5-dicaffeoylquinic acid, caffeoyl tartaric acid, caffeoyl tartaric acid derivatives and cichoric acid.
- **Pharmacological action**: The herb is a diuretic and tonic. Its infusion is used in the treatment of kidney complaints and as a remedy for dropsy and jaundice. It shows the cytotoxic activities of hypocretenolides, and is an antioxidant and anti-inflammatory.
- **Other uses**: Young leaves are used raw or cooked and tender leaves are consumed in salads; neither the taste nor the texture is attractive, but the leaves are acceptable raw, since they can be available in the late winter. The roasted root is a coffee substitute. Roots are eaten raw and leaves are eaten steamed. Fresh leaves are cooked as a meal. Seeds of the *Leontodon* species are an important food source for certain birds.
- **Caution**: No reports.

- **Arabic name**: Arial, Hasheshat Al-Rasas, Arial Thwaineh
- **Scientific name**: *Limonium thouinii* (Viv.) O. Kuntze
- **Common name**: Egyptian Sea Thrift, Sky-Blue
- **Family name**: Plumbaginaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Roots
- **Chemical constituents**: Tannins and some alkaloids.
- **Pharmacological action**: It is astringent and anti-diarrhoeal. The roots are used in folk medicine, internally to treat the last stages of diarrhoea or dysentery, and externally as a bath for ulcers and sores and as a gargle liquid.
- **Other uses**: An ornamental plant.
- **Caution**: No reports.

- **Arabic name**: Kittan Asfar, Kitan Sha'a
- **Scientific name**: *Linum mucronatum* Bertol
- **Common name**: Yellow Flax
- **Family name**: Linaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Aerial parts, leaves, roots, seeds, and oil.
- **Chemical constituents**: Lignans, aryltetralin lignans (podophyllotoxin derivatives), which are the main component in drugs, flavonoids, flavonoid glycosides, apigenin, beta-sitosterol, campesterol, chlorogenic acid, cycloartenol, lecithin, luteolin, myristic acid, squalene, stigmasterol, vitexin and fatty acids.
- **Pharmacological action**: Apigenin, beta-sitosterol and campesterol all enhance and solidify bones, nails and teeth. Chlorogenic acid, cycloartenol, stigmasterol, lecithin and luteolin are useful for skin problems, colon and female disorders. Myristic acid, squalene, stigmasterol, vitexin and fatty acids are effective against inflammations.
- **Other uses**: Small young fresh leaves of the spring season are edible raw, as are the seeds. The plant is a wild flower.
- **Caution**: No reports.

- **Arabic name**: Kittan Ahmar
- **Scientific name**: *Linum pubescens* Banks & Sol.
- ***Common name***: Pink Flax, Downy Flax
- **Family name**: Linaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Aerial parts, and flowers.
- **Chemical constituents**: Essential oil, of which geranyl isovalerate was the most abundant of the major constituents, oxygenated monoterpenes, and germacrene D (the major representative of the sesquiterpene hydrocarbons) amounted to 10.61% of the total oil content. 1-hexanol (4.99%) was present, and hexahydrofarnesyl acetone (5.02%) was the main compound of the oxygenated sesquiterpenes fraction. The volatile constituents of the aerial flowering parts revealed the presence of 68 components, of which geranyl isovalerate (18.93%), lauric acid (12.07%), germacrene D (10.61%), decanoic acid (8.07%), 6,10,14-trimethyl-2-pentadecanone (5.02%) and 1-hexanol (4.99%) are the major constituents.
- **Pharmacological action**: The plant has antimicrobial activity. A decoction of aerial parts and flowers is used for diabetes, cancer, weight loss and headaches. The isolated essential oil of the plant exhibited high antimicrobial activity against gram-positive bacteria (*Bacillus cereus* ATCC11778, *Enterococcus faecalis* ATCC 29212 and *Staphylococcus aureus* ATCC 2923) and showed moderate antimicrobial activity against *Escherichia coli* ATCC 25922, *Enterococcus faecalis* ATCC 13048 and *Klebsiella pneumoniae* ATCC 10031.
- **Other uses**: A wild flower.
- **Caution**: No reports.



Linum mucronatum

Different *Linum* species and/or flower colour

- **Arabic name**: Zewan, Zewan Muskir, Rwaitta
- **Scientific name**: *Lolium temulentum* L.
- **Common name**: Bearded Darnel, Annual Darnel
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Seeds
- **Chemical constituents**: Starch and volatile caryopsis alkaloids; the seeds contain an acrid fixed oil and a yellow glucoside, sucrose, oligosaccharides, fructan is present in the leaves, the alkaloids loline and perloline, phenolic acid, apparently ferulic, anthocyanin dyes, temuline and choline. It is not actually the seed but a fungus that is often found on the seed that has the medicinal properties.
- **Pharmacological action**: It is used to cure headaches, violent rheumatic meningitis, sciatica, a climacteric period giddiness, and epistaxis. The seed is anodyne and sedative. The spirit is astringent and may excite vomiting. The plant's decoction is styptic, diuretic and alleviates urinary pains. The fruits cure neural pains, gout, stomach aches, skin itching and inflammation.
- **Other uses**: A common weed.
- **Caution**: The seeds, below-ground parts and fruits contain alkaloids, glucosides or other toxic substances in harmful quantities. It is recorded to have produced all toxicity symptoms of drunkenness, including general trembling, an inability to walk, hindered speech and vomiting. If inadvertently eaten, it produces sickness, dizziness, and diarrhoea.

  The plant is reproduced by seeds, and grown wild in cultivated land by vegetable crops as well as by fruit and other field crops.

Seeds contain the following saturated pyrrolizidine alkaloids loline, perloline, temuline and temulentiine. The nature of their toxicity has not been satisfactorily elucidated. Fungi in or on the seeds are implicated in the toxic reactions. Several species of *Lolium* and other cool-season grasses tend to harbour symbiotic, seed-transmitted fungi that enhance their fitness by various means. These fungal endophytes species of *Neotyphodium* or *Epichloë* (Clavicipitaceae) are known for their production of anti-herbivore metabolites such as the bioprotective loline alkaloids. Lolines are saturated pyrrolizidines with an exo-1-amine and an ether bridge between C-2 and C-7.

- **Arabic name**: Abhar, Zahr Al-Assal, Assalah, Sultan Al-Jabal
- **Scientific name**: *Lonicera etrusca* Santi
- **Common name**: Italian Honeysuckle
- **Family name**: Caprifoliaceae
- **Growth habit**: Shrub Climber
- **Life cycle**: Perennial
- **Part/s used**: Fruits, and bark.
- **Chemical constituents**: Xylostein, iridoids, bisiridoids, sulphur-containing monoterpenoids, alkaloids, glycosides, triterpenoids, saponins, coumarin glycosides and flavone glycosides.
- **Pharmacological action**: The bark is diuretic, diaphoretic and emetic. It is used for insomnia and internal eyelid inflammation. It is also used for food poisoning caused by food having been left for too long in copper containers, which can be treated with vomiting resulting from a bark infusion. The bark of young shoots is used against syphilis and eczema. A laxative drug is also obtained from the bark of the plant. A leaf decoction is used as an antimalarial. Large yellow flowers contain a sticky material similar to honey, which is used in drug formulations.
- **Other uses**: It is a wild flower. Leaves are feed for cattle; the brownish gum excreted from the tree is used in industry. The wood, which is grey to yellow in colour, is hard enough to be used in home furniture and agricultural tools. The wood's pulp contains toxic material that makes it resistant to insects and plant disease infections.
- **Caution**: The berries are poisonous, causing intestinal ailments, chronic and sometimes bloody diarrhoea, a pale face, numbness, fatigue and somnolence, sclerotic muscles, photosensitization, pupil dilations, perspiration, and an increase in the heart's pulse rate.

Plants with different flower colours

- **Arabic name**: Enab Al-Talh, Hab Al-Dapaq, Assari, Hadal
- **Scientific name**: *Loranthus acacea* Zucc.
- **Common name**: Strap-Flower, Burning Bush
- **Family name**: Loranthaceae / Viscaceae
- **Growth habit**: Parasitic shrub
- **Life cycle**: Perennial
- **Part/s used**: Young branches, stems, and leaves.
- **Chemical constituents**: Fiscutoxin, acetylcholine, mucilage, glycoside and phoratoxin, while tannins and flavonoids were isolated from other species.
- **Pharmacological action**: The plant is mucilaginous, astringent, aromatic and bitter. Dried young twigs and leaves are employed against epilepsy, dizziness, convulsions, and giddiness. It was previously thought to alleviate reflex irritability. It is hypotensive, antisclerotic, a vasodilator, anti-carcinogenic and anti-tumour. It is used for skin eruptions, furuncles, purulence, and uterine and internal bleeding. The berries, when chewed, provide immediate relief from stitches.
  Small and dry branches are used for epilepsy, cramps and dizziness. It is believed the plant is anti-inflammatory and a cardiotonic. Fruit chewing is a local pain sedative.
  In folk medicine, the plant is used in the treatment of diabetes mellitus and to enhance wound healing. The extract has strong antibacterial and moderate antifungal activities.
- **Other uses**: It is a parasitic species and is also regarded as a wild flower.
- **Caution**: It is not advised for use by those suffering from heart problems.

Flowering stage

- **Arabic name**: Ghanam, Ushb Rejl Al-Assfour, Lotus, Lotus Qrainy, Qarn Al-Ghazal
- **Scientific name**: *Lotus corniculatus* L.
- **Common name**: Bird's Foot Trefoil, Birdfoot Deervetch
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant, and flowers

- **Chemical constituents**: Condensed tannins, □-amyrin, □-sitosterol and ursolic acid. It also contains 6,7,4'-trihydroxy-3,3'-dimethoxyflavonol, quercetin, quercitrin, kaempferol, kaempferitin, cyanogenic glycosides (hydrogen cyanide), flavonoids, colouring materials, cyanohydrates, luteolin glycoside, saponins, hydrocyanic acid, traces of prussic acid, condensed tannin and amyrin.
- **Pharmacological action**: It is a carminative, febrifuge, laxative, expectorant, hypoglycaemic, antibacterial, restorative and vermifuge. The flowers and the roots are antispasmodic, cardiotonic and sedative. The root is also a tonic. The fresh plant or plant powder is used as an antiphlogistic compress in all cases of dermatitis and burns. Small quantities of cyanogenic glycosides (hydrogen cyanide) stimulate respiration and improve digestion. The plant may be of benefit in cases of cancer but causes respiratory failure and death at high doses. Some forms of the plant's flowers contain traces of prussic acid and so the plants are mildly toxic when flowering, but become completely innocuous when dried. A plant decoction is used for bronchitis and colds.
- **Other uses**: An orange-yellow dye is obtained from the flowers. The plant is a useful green manure and for fixing atmospheric nitrogen. Its fruits are edible and small branches are grazed by animals. The wood is used as fuel.
- **Caution**: All parts of the plant are poisonous, as they contain cyanogenic glycosides (hydrogen cyanide). In moderate to large quantities, this causes respiratory failure and even death. In small quantities, hydrogen cyanide has been found to stimulate respiration and digestion. It has also been claimed to be beneficial in the treatment of cancer. The flowers of some forms of the plant contain traces of prussic acid and the plant then becomes mildly toxic. Animal toxification symptoms include restlessness, difficult respiration and comas.

- **Arabic name**: Turmus Barri
- **Scientific name**: *Lupinus varius* L.
- **Common name**: Wild Lupin
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Annual or Perennial
- **Part/s used**: Seeds
- **Chemical constituents**: Alkaloids including lupanin, lupinine, lupitedin, lupinidin, sparteine, a teratogenic quinolizidine, pucanin A, protein (30%), cholesterol, lecithin and mineral salts.
- **Pharmacological action**: The plant is antidiabetic, anthelmintic, cardiotonic, anti-tumour, expectorant, emmenagogue, stimulant and a nerve tonic. It is used for wounds, skin ulcers, furuncles, leucoderma and cancerous ulcers.
- **Other uses**: It is a wild flower. The seeds can be eaten if boiled in several changes of water. They are often placed in saucers of water as a winter decoration.
- **Caution**: The presence of a teratogenic quinolizidine alkaloid and anagyrine has been reported in some species of this genus. The plant is toxic because of alkaloids such as aspartin and lupanine, which is the most harmful. All toxins may be found in the same species and certainly lead to the death of animals fed on its seeds. Human toxicity occurs after eating green immature seeds or pods, especially when consumed by children. Toxicity symptoms include sleepiness, vomiting, dizziness, headaches, dyspnoea, reduced blood pressure, throat dryness, and heart depression. In animals, symptoms include staggering, trembling, falling, convulsions and breathing difficulties. The ingestion of this plant, especially in large amounts, is expected to affect major body organs such as the liver, heart and kidneys.

Plant populations from different geographical regions

- **Arabic name**: Awssag, Suraim
- **Scientific name**: *Lycium depressum* L.
- **Common name**: Boxthorn
- **Family name**: Solanaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used:** Soft green leaves.
- **Chemical constituents**: Tropine, choline, tannins, franfolin, franfelaroside, franfelamodin, alkaloids and hyoscyamine.
- **Pharmacological action**: The plant is used for all kinds of eye ailments, sores, scabies, itching, abdominal ailments, dermatitis, gonorrhoea, uterine bleeding, malaria, anaemia, lung infections, angina, gingivitis, pharyngitis and nerve pains in teeth. It is also used for hoarseness and diabetes. The plant promotes hair growth and its extract lowers blood pressure. It is purgative, tonic, and diuretic. It is a cure for haemorrhoids, dysentery and high blood pressure.
- **Other uses**: The fruits are edible when fresh. The plant is a wild flower.
- **Caution**: The plant is poisonous for cattle.

- **Arabic name**: Awsaj, Suraim
- **Scientific name**: *Lycium europeum* L.
- **Common name**: Boxthorn, European Matrimony Vine, European Tea Tree
- **Family name**: Solanaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Soft green leaves, roots and fruits
- **Chemical constituents**: It is very rich source of vitamins and minerals, especially vitamins A, C and E, flavonoids and other bioactive compounds, essential fatty acids, moisture, ash, soluble and insoluble acids, fibre, total oil, inverted sugar, iodine and protein. In addition, it contains hayocymine, choline, tannins, franfolin, franfelaroside, franfelamodin and tropane alkaloids. In the roots, lanosterol, stigmasterol, cycloartenol and ursolic acid are present.
- **Pharmacological action**: The plant may reduce the incidence of cancer and halt or reverse cancers' growth. Boiled and cooked roots benefit cases of hypertension and diabetes. The leaves' juice with a henna mixture is used for the treatment of babies' measles. Externally, a leaf extract is used to treat dermatitis, fungi and itching. The plant lowers high blood pressure and the blood glucose level, and is used for all kinds of eye ailments, sores and scabies, as well as to cure abdominal ailments, gonorrhoea, uterine bleeding, malaria, anaemia, pneumonia, angina, gingivitis, pharyngitis, ulcers and nerve pains in teeth. It is also used for hoarseness and diabetes, enhances hair growth, is a purgative, tonic, and diuretic, and a cure for haemorrhoids and dysentery.
  In folk medicine, the leaf extract is used in the form of drops for sore eyes, alopecia and headaches. A tea from the leaves is used in treating gas and to alleviate toothache, gingivitis, stomach pain in infants, irritated skin and itchiness. A plant extract is a sedative for pulmonary and stomach nerves, an antispasmodic, a pupil dilator and hypoglycaemic.
- **Other uses**: It is a graceful shrub that bears large edible berries. The leaves and fruits are very rich in vitamins and minerals, and are edible when fresh and used in salads.
- **Caution**: Some caution should be exercised with this species, particularly with regard to its edible leaves, since it belongs to same family that often contains toxins. However, the use of the leaves is well documented and fairly common in many regions. The fruit of some species may contain tropane alkaloids. The plant is poisonous for cattle.

- **Arabic name**: Awssag
- **Scientific name**: *Lycium shawii* Roem. et Schult
- **Common name**: Boxthorn, Desert Thorn
- **Family name**: Solanaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Soft green leaves, stems, and fruits.
- **Chemical constituents**: Amides, alkaloids, peptides, flavonoids, coumarins, sterols, steroids, organic acids and derivatives, polysaccharides, carotenoids, β-Sitosterol, 5,9-heneicosdienoic acid, methyl ester, atropine, mineral elements, essential oils and trans-ferulic acid.
- **Pharmacological action**: The plant is diuretic, hepatic, laxative, tonic and anti-colic. It is used for jaundice and to improve vision, and is hypoglycaemic. The stems are antioxidant and antimicrobial. The aerial parts' extract is cytotoxic to cancer cells when compared with doxorubicin. The plant has an obvious antioxidant effect when compared with rutin and is hepatoprotective. It antagonizes CCl_4-induced hepatotoxicity.
- **Other uses**: Mature fruits are edible when fresh. The plant is grazed by animals, and the leaves are grazed by gazelles and camels. The Bedouins believe that the plant is occupied by angels and therefore some tribes do not use its wood as fuel. They also believe, in any case, that it does not burn well, in addition to the fact that it is spiny and inflexible.
- **Caution**: No reports.

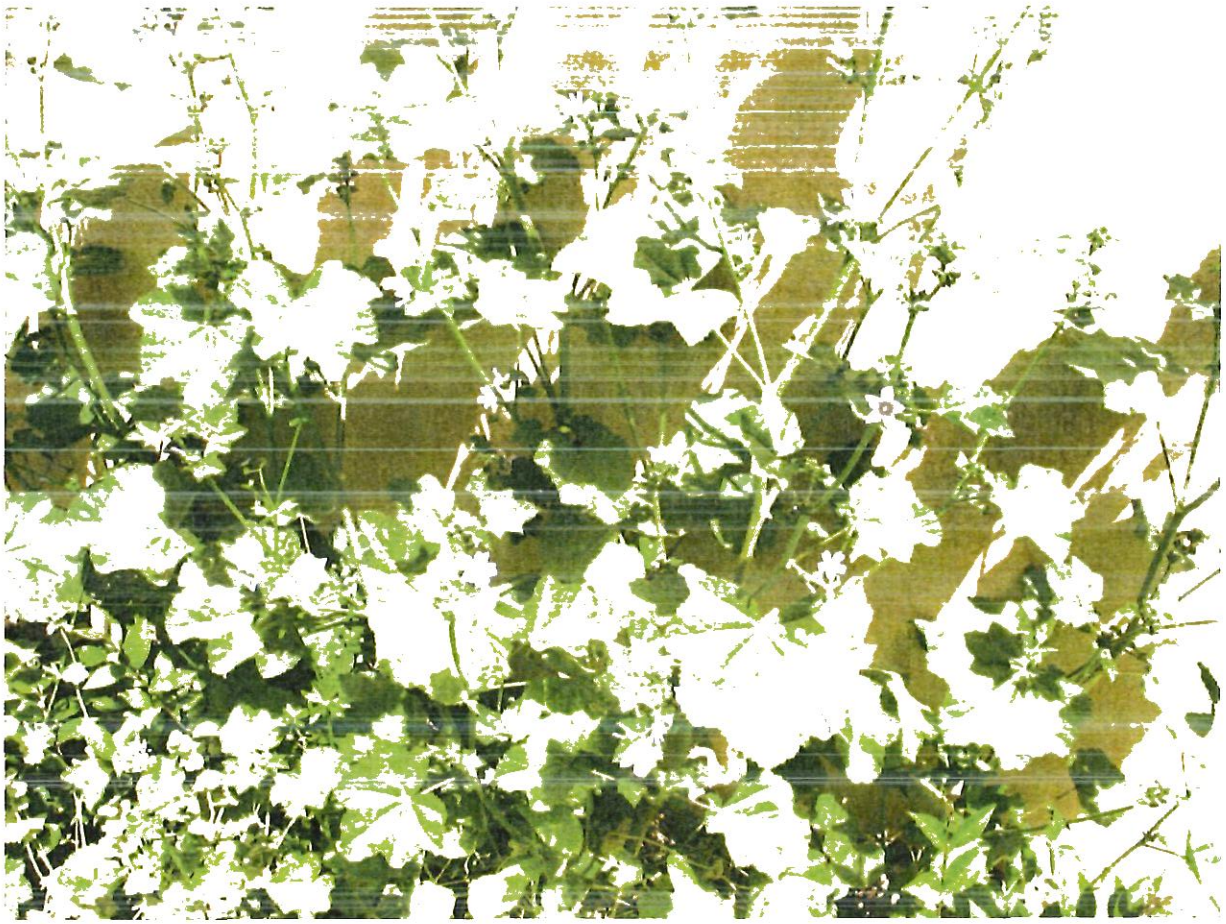
Fruiting stage

- **Arabic name**: Farfool, Frandol, Alsarmag Al'urguwani, Al-Farandal Al-Mabthol
- **Scientific name**: *Lythrum salicaria* L.
- **Common name**: Loosestrife, Red Sally, Purple Loosestrife
- **Family name**: Lythraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Branches, leaves, roots, and the whole plant, especially the full flowering plant.
- **Chemical constituents**: Silicarin, tannins, aromatic oils, mucilage, plant sterols, litranin, phytosterin, flavon *C*-glycosides (vitexin, isovitexin, orientin and isoorientin) and anthocyanins. In addition, vescalagin, pedunculagin, vanoleic acid dilactone, 1,6-di-*O*-galloylglucose, 1-*O*-galloylglucose and 6-*O*-galloylglucose are present, as well as sterols such as β-, proanthocyanidins, and an astringent principle.
- **Pharmacological action**: The plant is astringent and tonic. It is used against dysentery, diarrhoea, internal and external bleeding, wounds, ulcers, leucorrhoea and blood-spitting. It has also been employed for fevers, liver diseases, constipation, and infant cholera, and for outward application to sores. The plant is superior in strengthening eye vision, eye protection and in curing ophthalmia. The distilled water is applied for hurts and blows to the eyes and even for glaucoma if the crystalline humour is not destroyed. A warm gargle and drink cures quinsy or an infected throat. It can also be used to treat heavy periods and inter-menstrual bleeding. The whole plant is antibiotic, antiphlogistic, demulcent, hypoglycaemic, and vulnerary, is valued as an intestinal

disinfectant, and is used for enteritis, typhus and bleeding haemorrhoids. A plant infusion treats profuse menstruation. Externally, the plant is useful for impetigo, eczema, excess vaginal discharge and vaginal itching. The powdered plant is used as a haemostatic in severe nosebleeds. The stems are gum stimulators, and are given to children to chew in order to strengthen weak or bleeding gums. It is a lymphatic cleanser, a gargle for sore throats, especially when associated with feverish colds, and a remedy for bacterial infection. It can also be used as an eyewash for conjunctivitis and macular degeneration.

- **Other uses**: The late-season flowers of purple loosestrife are used as a source of nectar and pollen for overwintering colonies of bees.
- **Caution**: No reports.

Plant population



Vegetaive stage

- **Arabic name**: Khubeiza
- **Scientific name**: *Malva parviflora* L.
- **Common name**: Little Mallow
- **Family name**: Malvaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Flowers, leaves and the whole plant.
- **Chemical constituents**: Mucilage, tannin, malvin, organic acids, nitrate, volatile oil, carotene, vitamin C and colouring materials. Iron and some important mineral salts are also present.
- **Pharmacological action**: The plant is a laxative, diuretic, demulcent and digestive. It is used for asthma, wounds, ulcers, toothache, spleen ailments, and respiratory system inflammations. It helps soothe inflammations in the mouth and throat and gingivitis. It is also helpful for earaches and fever. It is a nutritive plant. A decoction of fresh leaves is taken orally as a cure for constipation, coughs and fevers.
- **Other uses**: The leaves and soft stems are eaten as cooked vegetables. The leaves can be eaten raw or cooked as a potherb. They are used to make a creamed vegetable soup that resembles pea soup. It is an excellent conventional and unconventional food plant. A few leaves can be added for colouring. The seeds have a pleasant nutty flavour.
- **Caution**: Organic acids and high nitrate levels may cause toxicity.

- **Arabic name**: Khubeiza, Khubeiza Barriya, Khabbaz, Khabazy.
- **Scientific name**: *Malva sylvestris* L.
- **Common name**: Common Mallow
- **Family name**: Malvaceae
- **Growth habit**: Herb
- **Life cycle**: Annual, Biennial or Perennial
- **Part/s used**: The leaves and blossoms, flowers, and the whole plant.
- **Chemical constituents**: Mucilage, tannins, malvin, a red pigment, anthocyanins, malvidin-3,5-diglucoside, pro-vitamins A, B, C, and carotene. Flowers contain colouring materials of a glycoside nature, mucilage, red pigments and polysaccharides.
- **Pharmacological action**: Malvidin-3,5-diglucoside is claimed to be an inhibitor of cell apoptosis induced by UV and/or oxidative stress; it is useful as a topical and oral drug and is used in cosmetics for the prevention of senescence and infirmity.
  The herb is included in a composition for the treatment of psoriasis, a cosmetic emulsion, and as an antioxidant. It is used for dermatitis and diseases, as a poultice against eczema, tumours, and for tissue restoration, for healing bedsores, and it cures colds, constipation, coughs, toothache, respiratory system ailments, abscesses and flu. The plant is an antiphlogistic, diuretic and tranquillizer. The flowers are used as an ointment for ulcers. The plant is a cure for wounds, toothache, chest disease, asthma, lungs, and catarrh, as well as diarrhoea, stomach ache and children's abdominal pain. It is an emollient, expectorant, and astringent. It is useful for scratches, stomach and duodenal ulcers, urinary system problems, digestive and respiratory system inflammations, spleen pains, and jaundice. It is also used for kidney and bladder patients. As a decoction it is a tonic, laxative and treats intestinal mucus, and is also used as a mouth wash and a gargle for mouth irritation and inflammation and gingivitis, as well as for stomach upsets, ear pain, bronchitis and inflammation. The leaves are demulcent and antipyretic, used for fever and throat ulcers, and are helpful for urinary inflammations and eye infections. The plant's infusion is anthelmintic, expels filament worms, and is used for dermatitis, ophthalmia, kidney and bladder ulcers. Raw leaves are used for nettle stings and an infusion of leaves and flowers is used for intestinal disorders and inflammation.

- **Other uses**: The plant is edible after being cooked, and it is a wild flower and common weed. Fresh leaves and young shoots are cooked as a vegetable dish.
- **Caution**: The nitrate content transforms rapidly into nitrite, and organic fatty acids (maleic acid) present the cause of toxicity with symptoms including arched back, staggering, incoordination, trembling, extended head, breathing difficulties, falling and death. In horses, toxicity is shown through rapid respiration.

A flowering branch

Plant population

Malva nicaeensis

Malva roduntifolia

- **Arabic name**: Khubaizi Na'mi
- **Scientific name**: *Malvella sherardiana* (L.) Jaub & Spach
- **Common name**: Malvella
- **Family name**: Malvaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant.
- **Chemical constituents**: Mucilage and mineral elements.
- **Pharmacological action**: The plant is antimicrobial, antioxidant and an anti-cholinesterase.
- **Other uses**: A wild flower.
- **Caution**: No reports.

- **Arabic name**: Tufah Al-Majanin, Tufah Majan, Yabroukh
- **Scientific name**: *Mandragora officinarum* L.
- **Common name**: Autumn Mandrake, Mandrake, Devil's Apple
- **Family name**: Solanaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The fresh or dried root, leaves, fruits, and rhizomes.
- **Chemical constituents**: Poisonous alkaloids in roots, tropane alkaloids including scopolamine, hyoscyamine, atropine, mandragorine, cuscohygrine, a normal constituent alkaloid and chlorogenic acid.
- **Pharmacological action**: The plant is a sedative, antispasmodic, antiphlogistic, hypnotic, hallucinogenic, emmenagogue, abortive, emetic and anodyne. Tropane alkaloids have a powerful effect on the central nervous system, and are cathartic, hallucinogenic and narcotic.
  The fresh or dried root contains highly poisonous alkaloids, and is hallucinogenic and narcotic. In sufficient quantities, it induces a state of oblivion and has been used as an anaesthetic in surgery.
  In folk medicine, the leaves are used in cigarettes, or as an ointment or appendage. The roots are purgative and an anti-diarrhoeal. The root juice or infusion is anti-rheumatic, an aphrodisiac and an emmenagogue, and is used for cramps, dermatitis, arthritis, insomnia, and toothache. It is also used for severe ophthalmia, as a painkiller during operations, as a fertility bestower, for gallbladder and skin disease, and as an emetic. A root and leaves decoction as a drink is narcotic and cures stomach aches. The juice of the grated root relieves rheumatic pains, and is used internally to treat melancholy, convulsions and mania. In large doses, however, it is said to excite delirium and madness.
- **Other uses**: Ripe fruits can be eaten raw without the seeds, but only in small numbers. The fruit may be used raw or cooked. It is a delicacy. The fruit is about the size of a small apple, with a strong apple-like scent. Caution is advised in the use of this fruit, as it is quite possibly poisonous.
- **Caution**: Extreme caution is advised. In mild doses mandrake can induce drowsiness, but in larger doses it can be a deadly poison. The roots, foliage and unripe fruits of this plant are poisonous when eaten. The leaves, root and the entire plant contain the tropane alkaloids scopolamine and L-hyoscyamine.

Fruiting plant

Mature fruits

- **Arabic name**: Farasaion, Ballota, Hashishat Al-Kalb, Shinbar, Farasaion Abyad, Farasion Aswad, Al-Rabah Alshaeia
- **Scientific name**: *Marrubium vulgare* L.
- **Common name**: Hoakhound, White Horehound, Horehound
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole flowering herb, flowering stems, flowering tops, and leaves after flowering.
- **Chemical constituents**: Fat, marrubium, the diterpene compound marrubiin (6.5%), a bitter principle, mucilage, resin, sugar, tannins, fixed oil, saponin, choline, potassium, calcium, vitamin C, tannic acid, potassium nitrate, saponisoids, glycoside, volatile oil, wax, flavonoid lactates, flavonoids (apigenin, luteolin, apigenin 7-glucoside, luteolin 7-glucoside, quercetin 3-glucoside, and quercetin 3-rhamnoglucoside), and monoterpenes in the essential oil such as □-pinene, camphene, limonene, sabinene, p-cymol, p-fenchene, and □-terpinolene. Premarrubiin, marrubiol diterpenoids, stachydrine anthocyanins, ascorbic, tannic and caffeinic acids, phenylpropanoid glycosides, marrubenol, steroids and terpenes are also present. □-sitosterol is contained in the aerial parts. Lupeol, a labdane diterpenoid lactone and vulgarin are also present.
- **Pharmacological action**: The plant is antiseptic, stomachic, analgesic, choleretic, expectorant, antispasmodic, antioxidant, antinociceptive, antihypertensive, a mild sedative, cholagogic, cardiosedative, bitter, and aromatic. It is also used for chest complaints, catarrh associated with phlegm, tuberculosis, dyspepsia, jaundice, uterus cleansing after birth, furuncles, colds, pulmonary problems, snuffle, throat agitation and smoker cough. Externally, it can be used for temporary or chronic skin problems. It is a stimulant and febrifuge, and the plant's infusion is used for colds, tonsillitis, pharyngitis, and respiratory infections and tea is used for coughs.
  In folk medicine, the plant is used to treat diabetes, earache, fever, coughs, asthma, bronchitis, liver, gall bladder disorders, inflamed wounds, abscesses, colds, congestion in toes, varicose veins, to calm heart action, as a stomach tonic, digestive, and cholagogue, and helps with all lung conditions, nasal and sinus congestion, the expulsion of phlegm, prickly sensations in the throat and smoker's cough. It is antipyretic, diaphoretic,

appetizer, anti-pulmonary gas, anti-nerve tension, anti-obesity, anti-malarial and anti-viral. A plant infusion is useful as an antispasmodic, and is used for insomnia and anxiety. The roots are a tonic for the respiratory system and stomach, expel worms, and cure typhoid and paratyphoid fever.

- **Other uses**: The plant is attractive for bees. It is used as a tea, and as a flavouring in candies, lozenges, craft beers and ales. Marrubiin is an antifeedant for *Spodoptera frugiperda* larvae.
- **Caution**: High doses may cause heart pulse disorders. Leaves and herbaceous plants contain toxic diterpene lactones such as marrubiin.

The plant in its natural habitat

- **Arabic name**: Babonij Thahabi
- **Scientific name**: *Matricaria aurea* (Loeffl.) Sch. Bip.
- **Common name**: Golden Cotula, Chamomile
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Root
- **Chemical constituents**: Highly oxygenated bisabolenes and an acetylene.
- **Pharmacological action**: The plant is hypoglycaemic and antioxidant. It is used for colic, cramps, stomach ache, snake bites, fevers, coughs and cardiac diseases. The root is antispasmodic, aromatic, diaphoretic, diuretic, expectorant, galactagogue and stimulant. It promotes free expectoration and is very useful in the treatment of debilities attendant on coughs of chronic standing in the advanced stages of pulmonary consumption. It is also used in the treatment of whooping coughs, liver and kidney diseases, and skin complaints. The plant is well known by Bedouins and villagers as it is used for stomach aches in general, colic, cramps and dyspepsia.
- **Other uses**: The infusion of the whole plant is a hot beverage prepared as a fermented drink from the plant's flowering heads and then consumed. It is a wild flower and weed.
- **Caution**: No reports.

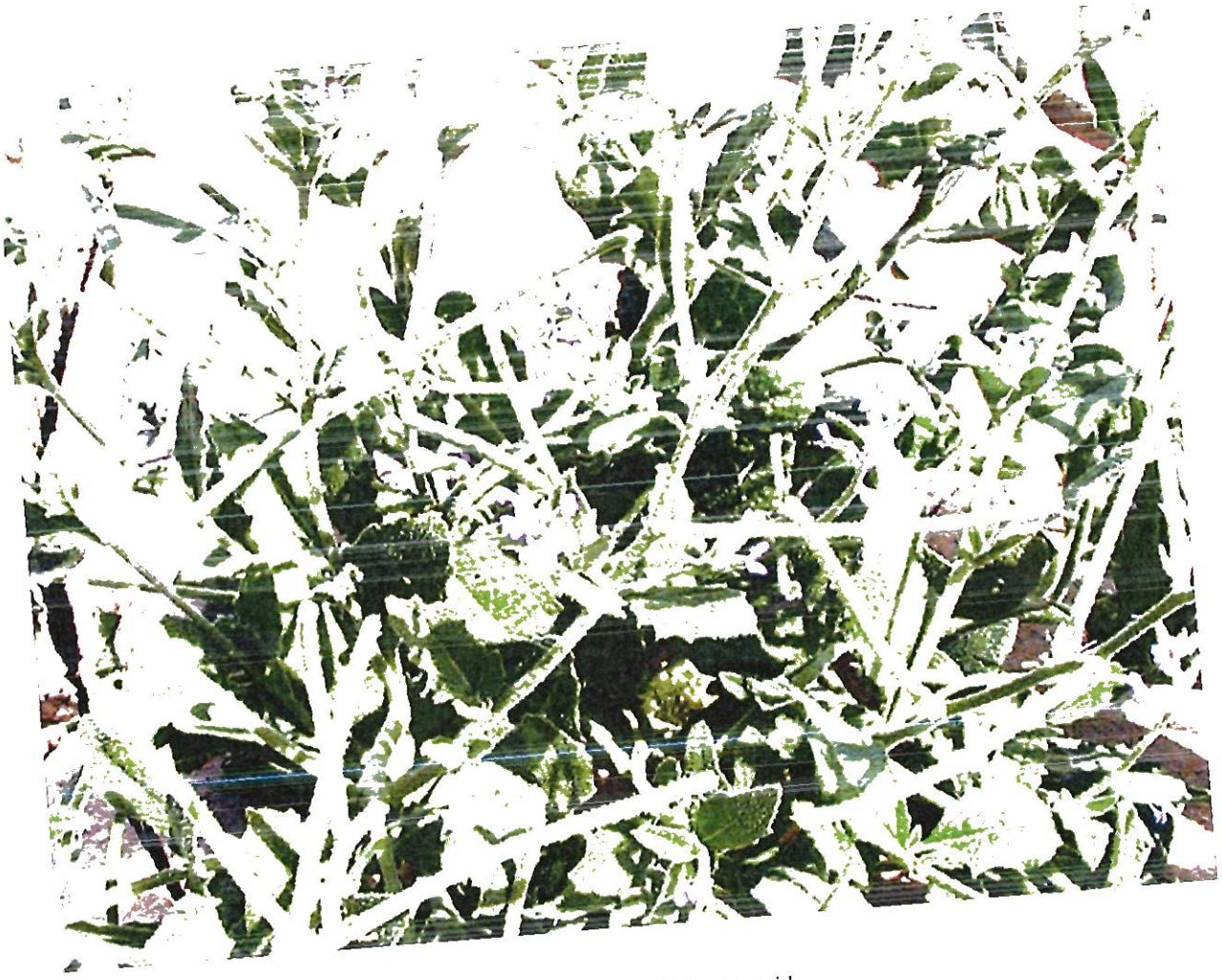
- **Arabic name**: Babonij Barri
- **Scientific name**: *Matricaria chamomilla* L.
- **Common name**: Scented Mayweed, German Chamomile
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Flowers, flowering heads, and sometimes complete vegetative parts.
- **Chemical constituents**: Flowers contain a volatile oil (up to 1% of dried flowers) containing blue chamazulene, anthamic acid, anthamedine, tannin, matricarin derived from azuline derivatives and geraniol. Chamomile contains apiin, flavones, mucilage, prochamazulene that converted with matricarin into chamazulene. Also present are coumarin, triterpenoids and sterols, matricine, flavonoids (rutin, apigenin glucoside, quercetin), polysaccharides, and blue oil from the flowers, of which the major components are farnesene, farnesol, azulenes, bisabolol, bisabolol oxide and lipids. The plant contains gum, sugars, tannin, bitters, sulfur and phosphoric acid.
- **Pharmacological action**: The plant is an emmenagogue, and is used for coughs, hair care, rheumatism and wounds. The essential oil and extract are antioxidants, and the polysaccharides decrease cholesterol and triglyceride levels. The plant is carminative, spasmolytic, a mild sedative, antiphlogistic, antiseptic and anti-catarrhal. It is used in cosmetics or skin cleansers, toothbrush agent composition, hair tonics, dyeing, tinting and preparations, and sebum secretion-inhibiting skin preparations. It is a valuable perfume plant. The leaves make a relaxing bedtime tea. The oil is a disinfectant, cholagogue, and scarfskin cleanser, cures skin problems, bronchitis, whooping cough, and asthma, and is used for respiratory system problems.
  The plant has diaphoretic and antispasmodic properties. It is commonly used for children's ailments and teething problems in homeopathic medicine.

A plant infusion is used for colds, influenza, indigestion, diarrhoea, urinary infections, insomnia and hysteria. A flower infusion is externally used for ophthalmia and in a vaginal wash against leucorrhoea and skin ulcerations in general. The herbal inflorescence tea is not exciting, but the inflorescence's active materials and mainly the volatile oil are anti-inflammatory, anti-colic, and antiseptic for the digestive and respiratory systems, and are appetizers and stimulate blood periods. Its tea is a nerve sedative, is used for digestive cramps, coughs, fever, colds, pharyngitis, laryngitis, and stomach aches, and is included in a calming mixture. A plant decoction is beneficial for digestion disorders, and is an anti-convulsive and a febrifuge. A chamomile drink is hypnotic.

Externally, it is used in compresses, bath preparations and in eye and mouthwashes. Flowers' powder is used for dermatitis, mouth ulcers, wounds and nail inflammations. A boiled flower inhalation is useful for sinusitis and throat catarrh. Chamomile is a component in cosmetics as a skin cleanser. Azolines nourish facial scarfskin and enhance its beauty and flush; they are also used in toothpaste, tonics and hair dye. Chamomile is a valuable aromatic plant.

- **Other uses**: It is a wild flower and an alternative tea.
- **Caution**: The herbal tea should be used immediately, preferably within a day. Its oil may become toxic upon storage.

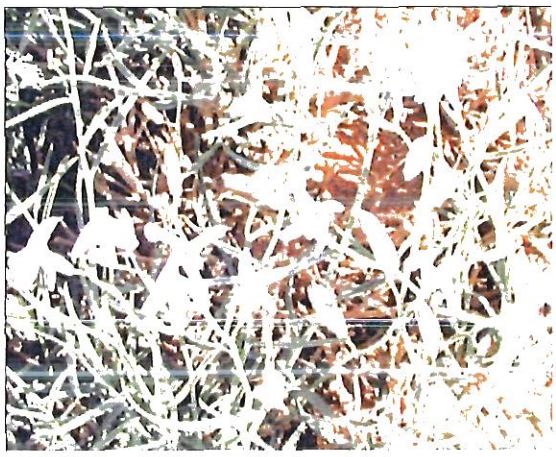
Plant population



- **Arabic name**: Manthoor Arabi, Soqar, Shaqarah, Qudaim, Quraid
- **Scientific name**: *Matthiola arabica* Boiss
- **Common name**: Komkom
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Aerial parts and seeds.
- **Chemical constituents**: Isothiocyanates, glucosinolates, ethyl glucosinolate, gluconapin, glucoerucin and glucoraphanin and glucodehydroerucin.
- **Pharmacological action**: *M. arabica* possesses a promising anti-fibrotic effect, which can be attributed to its antioxidant and anti-inflammatory properties. In folk medicine, the safety of *M. arabica* shows a weak cytotoxic effect on breast and colon cancer, but no effect on the liver or lung was evidenced. Its seeds are used to cure anaemia.
- **Other uses**: The seeds are eaten while fresh, or after being dried and macerated in water for internal use. Bedouins use the plant's flowers and stems as a food and as cattle feed without it being toxic for the animals.
- **Caution**: No reports.

- **Arabic name**: Manthoor
- **Scientific name**: *Matthiola incana* (L.) R.Br
- **Common name**: Stock, Hoary Stock
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Flowers, leaves, seedpods, and oil from the seeds.
- **Chemical constituents**: Seed oil is rich in omega 3 linolenic acid, glucoputranjivin (alkyl glucosinolate), glucoerucin (methyl-thio-alkyl glucosinolate) in seeds and small quantities of mustard oil (methyl-thio-alkyl and phenylethyl isothiocyanates).
- **Pharmacological action**: The seeds are an aphrodisiac, bitter, diuretic, expectorant, stimulant, stomachic and tonic. The infusion has been used for cancer and when mixed with wine it has been used as an antidote for poisonous bites. It is a stimulant, stomachic and tonic drug with potential antioxidant activity, in addition to its reportedly powerful ability to reduce serum cholesterol in experimental animals.
- **Other uses**: A wild flower.
- **Caution**: No reports.

Matthiola parviflora



Different *Matthiola* species

- **Arabic name**: Nafal, Smeena
- **Scientific name**: *Medicago polymorpha* L.
- **Common name**: Toothed Burclover, Burclover
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves and young shoots.
- **Chemical constituents**: The young leaves contain about 6% protein, 0.14% fat, 9.5% carbohydrate, 1.4% ash and saponins. The plant contains triterpene saponins including glycosides of echinocystic acid, hederagenin, caulophyllogenin, bayogenin, and soyasapogenol B. saponins identified as 3-*O*-α-L-arabinopyranosyl-28-*O*-[β-D-glucopyranosyl(1→6)β-D glucopyranoside] echinocystic acid and 3-*O*-α-L-arabinopyranosyl-28-*O*-β-D-glucopyranoside echinocystic acid.
- **Pharmacological action**: The plant is anticancer, antioxidant, cytotoxic, antimicrobial and effective against free radical-mediated diseases, and thus has a potential for treating cancer. The decoction obtained from fresh leaves and young shoots is used for regulating blood pressure and is a carminative. Fresh leaves are cooked in water and taken orally for the treatment of constipation and indigestion.
- **Other uses**: The leaves and young shoots are used raw or cooked as a potherb; only young leaves are eaten raw. They are rich in vitamins A, C, and E. The flowers are edible raw or cooked. The seeds are consumed after being cooked or they can be parched, ground into a powder and mixed with water to make a mush. The plant is used as a green manure since it fixes atmospheric nitrogen. However, the species can be considered as an invasive weed and can sometimes be toxic to livestock, while the seedpods can be a serious contaminant of wool.
- **Caution**: The plant can cause photosensitization in horses, and occasionally red gut in sheep and bloating in cattle.

- **Arabic name**: Fissah, Nafal (Barseem Hegazi), Khubz Al-Rai'i, Jet
- **Scientific name**: *Medicago sativa* L.
- **Common name**: Medick, Alfalfa, Lucerne
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Roots, leaves, seeds, sprouts, and flowers.
- **Chemical constituents**: Vitamins A, B, C, D, E, G, and K are present. It is rich in calcium, chlorine, magnesium, phosphorus, sodium, potassium, iron and silicon. It also contains carotenoids, lutein compound, triterpene saponins, genic acid, hydragenin, isoflavonoids, daidzein, cholesterol, leusertol and satifol. The plant includes triterpenes among which are stigmasterol, spinasterol and cyanogenic glycosides. Sebinasterol, genistin, choline, citric, hydrocyanic, limonene, shikimic, quinic, maleic, malonic, oxalic and pantothenic acids, pectin, saponin, tannin, trigonelline and tryptophan are all present. Isoflavones (daidzein, formononetin, genistein and biochanin A) and coumestrol and trypsin inhibitors are contained in the seeds. The seeds contain canavanine, betaine, stachydrine, homostachydrine, trigonelline and fatty oils. The plant is rich in nitrates, isoflavones and estrogenic materials.
- **Pharmacological action**: The plant is nutritive. It is used as a tea to treat arthritis, boils, digestive disorders, urinary tract infections and bowel disorders. The chlorophyll reduces halitosis, is an aphrodisiac and is effective for bruises, fractures, and nosebleeds. The leaves are also used for fractures and bruises, and the seeds are used as an aphrodisiac, a galactagogue, to protect against glaucoma, and help in the build-up of mucous cells enclosing the digestive, urinary and respiratory systems. Their infusion is an appetizer and increases potency. The plant is regarded as a complete food in cases of anaemia; it also cures ulcers (mainly stomach and intestinal ulcers), is a blood toxin cleanser and used for dyspepsia, a detoxicant and anti-toxicant for heavy metals (mainly lead), and has anti-constipation properties. Its seeds are used in a poultice for burns, are anti-bleeding, and help in cases of blood coagulation.
  In traditional medicine, the leaves treat digestive and kidney disorders. The plant is recommended for diabetes, bladder diseases, anaemia, and as an appetizer, estrogen alternative, premenstrual syndrome alleviator, anti-cholesterolemic and anti-haemorrhagic.
- **Other uses**: The leaves and young shoots are eaten raw or cooked as a vegetable, and sprouts added to salads are very beneficial. The plant is a forage species.

❖ **Caution**: Aerial parts contain medicagol coumarins; pyrrolidine alkaloids in the seeds include stachydrine (0.18%), homostachydrine and trigonelline (0.36%). Some people are allergic to the plant and the dust generated when milling alfalfa. Toxicity cause impotence, photosensitization, disability and skin boils.

Medicago sp.

M. alba

- **Arabic name**: Handagug, Eklil Al-Malik
- **Scientific name**: *Melilotus albus* Med.
- **Common name**: Melilot, White Sweet Clover
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Annual or Biennial
- **Part/s used**: Upper parts of the flowering plant, and the whole plant.
- **Chemical constituents**: Glycosides, melilotin, resin, volatile oil, fixed oil, acids, mucilage, vitamin C, coumarin (0.4-0.9%), and acids conjugated with glucose in the form of melilotoside glycoside, flavonoids, tannins, dicoumarin and dicoumarol.
- **Pharmacological action**: The plant is carminative, expectorant, diuretic, depurative, aphrodisiac, anti-thrombosis, antiseptic, antiphlogistic, analgesic, astringent, narcotic, hepatoprotective and used for blood thinning. The plant is used against kidney stones, rheumatism, inflammations, arthritis, gout, nephritis, hepatitis, joint pains, leucorrhoea, renal lithiasis and uterine disorders. It cures wounds, sores, tumours, infected mouldy wounds, and may also cure diabetes. The plant's extract and infusion are antispasmodic, anti-inflammatory, diuretic and sedative, and are useful against jaundice. Coumarin is used for nephritis and colic. The fresh leaves' paste is applied topically against inflammation and joint pains.
- **Other uses**: The leaves and seeds are flavouring agents in Arab margarine. Coumarin is involved in the perfume industry.
- **Caution**: It is sometimes an unwanted herb in hay fields as high amounts of coumarin can harm cattle fed on contaminated hay. Animals fed on this herb suffer from heavy bleeding because the presence of dicoumarol as an anticoagulant antagonizes vitamin K. It exceeds coumarin by 1000-5000 times and leads to weakness, rapid heart pulses and death.

- **Arabic name**: Handaqooq, Ikleil Al-Mallik
- **Scientific name**: *Melilotus indicus* (L.) All.
- **Common name**: Indian Melilote, Sour Clover, Sweet Clover, Annual Yellow Sweetclover
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Annual or Biennial
- **Part/s used**: Flowering parts, seeds, leaves, and the whole plant.
- **Chemical constituents**: Coumarin is the only important constituent, together with its related compounds, hydrocoumaric (melilotic) acid, dicoumarol, orthocoumaric acid and melilotic anhydride or lactone. A fragrant oil, seleno-amino acids, pterocarpan, flavonoids, pterocarponoids, crude protein, crude fibre, carbohydrates, ash, calcium, phosphorus, magnesium, D-galactomannans and 3,9-dihydroxypterocarpone in seeds and mucilage are also present. In addition, the plant contains melolitin, glycosides including melilotized glycosides, resin, vitamin C, fat, tannin, melatonic anhydride, lactone and free nitrogen.
- **Pharmacological action**: 3,9-dihydroxypterocarpone (coumestrol) possesses estrogenic activity, and pterocarponoids have antifungal effects. The herb is aromatic, emollient, anti-dyspepsia, anti-tumour and carminative. Plant juice clears vision, is boiled with other ingredients and applied to wens and ulcers, mitigates pain in the ears and alleviates headaches. The herb is good as an anti-inflammatory (especially for the eyes), and for skin rashes, blood thinning, rheumatism, jaundice, diabetes, and kidney stones. It is discutient, astringent, expectorant, analgesic, diuretic, strongly laxative and narcotic. Infusion of flowering branches is antispasmodic. The seeds are used for diseases of the genital organs of both genders, bowel complaints, dysentery and infantile diarrhoea. The leaves and flowering branches improve blood circulation, and are used for varicose veins and haemorrhoids. An infusion from the flowering branches is anti-spasmodic. Coumarin is an anticoagulant. As an ointment, the plant's extract is used externally for curing solid tumours, ulcers, furuncles, mouldy wounds, skin diseases and pimples. The fresh leaves' paste is applied topically for joint swelling.
- **Other uses**: The plant is a flavouring agent. The leaves and seeds are used as a flavouring in margarine and jameed (dried yoghurt) and the leaves are used as a tea. Dicolamil is a rodenticide and dicoumarol is a widely applicable herbicide and bactericide.
- **Caution**: The plant should be used under medical supervision, as it is known to contain estragole in unspecified quantities and coumarin and its derivates. Under certain conditions of conservation (high degrees of humidity), it may lead to the formation of dicoumarol, an anticoagulant agent. The plant should not be

used when warfarin and blood dilator drugs are used or in cases of blood clotting. Some herbal or dietary supplement products have been found to contain possibly harmful impurities/additives.
Cows are most sensitive to the plant's toxicity since it prevents blood coagulation, and causes internal or external bleeding to the animal it until dies. Food contamination as a result of ingesting large amounts of this plant causes severe toxicity, especially mouldy plants. Toxicity symptoms occur within 3-8 weeks after ingestion, and include severe bleeding resulting from even a small cut (since the dicoumarol is an anticoagulant), followed by weakness, rapid heart pulses and death. Hay containing 30% *Melilotus indica* caused dicoumarol poisoning in cattle and sheep fed on the plant during drought periods.

Melilotus italicus

- **Arabic name**: Mallessi, Turanjan, Mlaisa, Hashishat Al-Nahl, Rehan Al-Laymon.
- **Scientific name**: *Melissa officinalis* L.
- **Common name**: Wild Balm
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves and flowering tops.
- **Chemical constituents**: Aromatic volatile oil in leaves, which is yellow in colour with active materials including cetral, linalool, cetronellal, geraniol (gives a lemon scent in new leaves), starch, aldehyde, tannins, mucilage, bitter, saponin, pinene, resin, sosenil acid, flavonoids and rosmarinic acid.
- **Pharmacological action**: It is sedative, antipyretic, anti-vomiting, anti-diarrhoeal, anti-rheumatic and carminative. The plant is used for insomnia, cramps, migraines, hypertension, ear and teeth nerve ailments, epilepsy, hysteria and palpitations.
  The oil is useful for depression and stress, joints ailments, as a diaphoretic, and for fevers. The plant is aromatic, its medicinal tea is analeptic, sedative and of a pleasant smell, and helps with colds and nasal congestion. The oil ointment is a cure for insect stings, and when diluted in almonds or olive oil it is used for tension and chest diseases. The oil improves psychiatric feeling and memory, is a galactagogue, and cleans the uterus after birth.
  The plant extract is antiviral and used for numbness. The eugenol kills bacteria, and is a muscle and numbed tissue sedative. The tannin is antiviral and the trepans are emollient. *Melissa* is used as a tea for depression and its leaf powder is rubbed on the skin as a mosquito repellent. The plant and its formulations improve the mood and memorial behaviour, including in the treatment of Alzheimer's disease. The plant extract is an antioxidant, improves blood plasma and effectively reduces DNA plasma devastation. One of the traditional uses of *Melissa* is in a mixture of mulberry and *Artemisia* for obesity regulation.
- **Other uses**: The oil is used in the perfume industry and cosmetic formulations. The plant is well known for its use in tea and soup flavouring, and when cooking fish, chicken and vegetables. It is also used in salads, drinks, meat dishes, and decorations, and as dried flowers. The leaves are used as cake decorations and chopped or dried leaves are added to fish and chicken dishes and spread on fresh vegetables. They can also be

added to summer drinks, fruit salads, and are a good alternative to lemon peel slices in food composition. *Melissa* oil gives a flavour to alcoholic and soft drinks, sweets and food products. Sometimes the oil is used as a component of perfumes and toothpaste; it also gives a glitter or shine to furniture. The plant is well known as a bee herb.

❖ **Caution**: The oil is not for use on skin exposed to sunlight, nor by patients who use thyroid gland drugs such as thyroxine, as it is believed that it inhibits drug absorption.

Plant population

A single plant

- **Arabic name:** Batnag, Na'na' Barri, Na'na' Taweel Al-Awraq
- **Scientific name**: *Mentha longifolia* (L.) Hudson
- **Common name**: Horsemint
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves before flowering, stems, and the whole herb.
- **Chemical constituents**: Essential oil is constituted of menthol, limonene, pinene, eucalyptol and tannic acid. Other major constituents of the essential oil include piperitenone and its oxide, and pulegone. The plant contains tannins and saponins, carbon, terpenes of which the most important is limonene, phellandrene and common flavonoids such as acacetin, hesperidin, luteolin and apigenin glucuronides.
- **Pharmacological action**: The plant is antispasmodic, sedative, stomachic, digestive, carminative, a flavouring agent, stimulant, antiseptic and refrigerant. It is used for diarrhoea, dysentery and pimples. It prevents hair dryness, fever, sore throats, dyspepsia, abdominal pain, asthma, coughs, haemorrhoids, rheumatism, and wounds. The menthol stimulates the production of bile fluid and its vapours relieve nasal, sinus and chest congestion.

  A leaf infusion is taken as a cooling medicine. A tea made from the plant relieves headaches, indigestion and rheumatic pains. It alleviates dyspnoea, chills and gastrosis, and treats gallbladder disorders and flatulence. Internally, a mint infusion is a very successful drug for gallbladder and intestinal disorders, and it is carminative, cholagogue and anti-inflammatory. It removes colic, menstrual disorders, pulmonary infections, congestion, colds and urinary tract infections. A poultice from mint leaves with bread pulp and vinegar is used for dermatitis. Mint calms neural pain, and cures children's colds and stomach ache through the inhalation of the leaves' vapour. Externally, it relieves flatulence, and is used for ulcers and sores treatments. The inhaled vapours relieve bronchial congestion.

  Menthol is used for massages, against migraines, as an excellent antiseptic for the nose and pharynx, and as a gargle with tea for tonsillitis, and the infusions from fresh or dried leaves or essential oils are used for gastric aches, dizziness and sleeplessness.
- **Other uses**: It is an aromatic species. Fresh and dried stems and leaves are used in salads or for dough stuffing and seasoning. Mint can be added to drinks and fruit dishes as a garnish. It also makes a refreshing

tea and flavouring for some food dishes, ice cream, chocolate and other desserts, as well as in mint sauce or mint jelly. The plant also flavours toothpaste, it is an excellent breath freshener, and it is also used in drug formulations. The oil is used in chewing gum and mouth wash. The plant is common in gardens.

❖ ***Caution***: *The oil causes inflammation*, allergy, blistering, increased urination, cramps, damage to the central nervous system and abortion. Large doses cause vomiting, mouth dryness and thirst.

Plant population

- **Arabic name**: Na'na' Barri, Na'na' Filfily
- **Scientific name**: *Mentha piperita* L.
- **Common name:** Peppermint
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves before flowering, and aromatic oil.
- **Chemical constituents**: The essential oil is made from menthol, mention, limonene, pinene, phellandrene, eucalyptol (2.4-18.5%), pulegone (0.1-5.4%), menthofuran (0.1-7.4%), carvacrol, coumarin and tannic acid. Resins, bitter materials, phenolic acids and triterpene are present in the plant.
- **Pharmacological action**: The plant is spasmolytic, carminative, diaphoretic, antiemetic and anti-pruritic. The oil alleviates fevers, candida, nausea, and vomiting and aids the respiratory function. It helps cool the body during hot summer days, and is best for stomach problems. It is a cholagogue and diaphoretic. It is used in a massage blend for the digestive system and indigestion, for intestinal gas, diarrhoea, histomoniasis, and haemoflagellates, and as an anti-inflammatory for pneumonia, nephritis and arthritis. The essential oil stimulates, refreshes, restores and uplifts the mind and body. It is excellent for refreshing a tired head and feet, and is an insect repellent, emollient, antiseptic and muscle relaxant.
  A mint infusion is an excellent drug for gallbladder and intestinal disorders and gases, as well as muscle spasms, and is a sedative and effective for throat catarrh. By placing a poultice of leaves and wheat bread pulp or paste where pain is felt, it also cures mastitis. Mint cures colds in children by the inhalation of burned leaves' smoke, as well as backache and toothache. In folk medicine, the oil is used for teeth and back pains.
- **Other uses**: The plant works well against infectious diseases in poultry, mainly in turkeys. The oil may be used in water for flavouring, the plant is used in teas and as a fragrance, and the leaves are used as a spice in salads and can be added to different kinds of sweets and drinks as a flavour. The oil is included in preparing toothpaste and soap.
- **Caution**: The plant is not for use by pregnant women. In high doses, the oil may cause irritation and blistering to sensitive skin, increased urination, cramps, damage to the central nervous system, and abortion, and large doses cause vomiting and reduce lactation.

Flowering plants

Mentha aquatic

- **Arabic name**: Hasheshat Al-Zeibaq, Hasheshat Al-Zujaj, Qazaza, Halbob, Halabloob Hawli
- **Scientific name**: *Mercurialis annua* L.
- **Common name**: Annual Mercury, Mercury Weed
- **Family name**: Euphorbiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant fresh or dry, except the roots and plant sap.
- **Chemical constituents**: Saponins, bitter materials, mercurialine, trimethylamine, hermidin, volatile oil, fatty oil, heroside, potassium salts, colouring materials, flavon heterosides, alkaloids, monoterpenes, aromatic alcohols, flavone glycosides, rutin, narcissin, and minor flavanol triglycosides: quercetin 3-(2G glucosyl) rutinoside, isorhamnetin-3-O-rutinoside-4'-O-glucoside, and isorhamnetin-3-O-rutinoside-7-O-glucoside.
- **Pharmacological action**: It is a diuretic, purgative, ophthalmic, cathartic and mucilaginous plant formerly used as an emollient. The whole plant, and especially the juice, is emetic. The plant is used in the treatment of rheumatism, open wounds, dropsy, diarrhoea, gallbladder and liver disorders, cancer, skin diseases, and warts, and is an anti-galactagogue, anti-syphilitic, and homeopathic. Externally, it is used to treat women's complaints, ear and eye problems and sores.
- **Other uses**: The seeds taste like those of hemp. This plant had some reputation as a potherb, and the leaves have been boiled and eaten like spinach in some parts of the world. Its acrid qualities are dissipated by boiling. Pigs have also been fed with it in France. It is a wild flower and poisonous weed.
- **Caution**: The genus includes some species that may contain co-carcinogenic diterpenes, e.g. ingenol esters. The plant is poisonous for humans and animals and is associated with inflammations in the mouth and digestive system, and also causes skin sores. The toxicity symptoms that appeared were salivation, anorexia, diarrhoea preceded by weak constipation, haematuria, and then death. In humans, it causes vomiting, kidney and stomach ailments, painful urination, sensitivity in the respiratory system resulting from pollen grains, a pale face, jaundice, severe ailments, coma and death. Gastrointestinal symptoms of poisoning described in cattle, sheep, and horses include diarrhoea and the later development of haemolytic anaemia.

The plant grows wild on irrigated field borders, waste places, roadsides and sometimes along irrigation channels and on fruit trees.

In its natural habitat

- **Arabic name**: Hay Allam, Ghasool, Samh, Hurr, Mullaih Zahri Al-Oqad
- **Scientific name**: *Mesembryanthemum nodiflorum* L.
- **Common name**: Slenderleaf Iceplant, Egyptian Fig Marigold
- **Family name**: Aizoaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves and seeds.
- **Chemical constituents**: The leaves contain flavonoids (rutin, neohesperidin, and hyperoside), catechin, ferulic and catechol acids, and tannins.
- **Pharmacological action**: The plant is demulcent and diuretic, and is used in the treatment of inflammations of the pulmonary and genito-urinary mucus membranes. The leaves are used for gout, dysentery and liver and kidney diseases. *Mesembryanthemum crystallinum* has antioxidant and antibacterial properties.
- **Other uses**: The plant may be grown as a garden ornamental. The leaves of some species are edible. Macerated leaves are used as soap substitutes. Ground seeds can be made into bread and other foods.
- **Caution**: The genus includes some species that may contain indole alkaloids, mesembrine and oxalic acid.

Other *Mesembryanthemum* species

- **Arabic name**: Ajras Beit-Lahem
- **Scientific name**: *Moluccella leavis* L.
- **Common name**: Bells of Ireland, Shell-Flower
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Seeds
- **Chemical constituents**: Lectin.
- **Pharmacological action**: The activities of bound lectin are highest with glycosphingolipids through α-linked N-acetylgalactosamine and Forssman glycosphingolipid. Plant lectin is used for medical and biochemical purposes, since cross-reactivity is most important. Lectins are added to the blood serology group, and, acting as a sugar-binding protein from a non-immune source, may bind with the antigen receptor on the cell surface and can stick on certain antigens (blood red cells or bacteria) in the suspension, or precipitate certain materials in the blood, bacterial polysaccharides or similar large molecules in solutions. Lectins thus are used in immunohaematology and are described as an antibody-like protein.
- **Other uses**: It is a wild flower. The flowering stems may be harvested and used fresh or dried in flower bouquets. The plant is suitable in gardens, giving a light aroma. It is a common and widespread summer weed.
- **Caution**: No reports.

The plant spread in a field

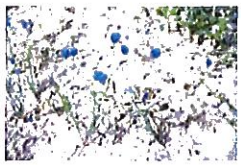
- **Arabic name**: Haesaban, Ban, Hab Ban, Haba Ghalia, Yussr Alban, Shajarat Al-Ruwaq, Fustok Ban, Fustok Rommi, Fijil Alkhail
- **Scientific name**: *Moringa oleifera* Lam.
- **Common name**: Horseradish Tree, Oil Tree
- **Family name**: Moringaceae
- **Growth habit**: Tree
- **Life cycle**: Perennial
- **Part/s used**: Seeds, oil, leaves, pods, flowers, roots, and bark.
- **Chemical constituents**: Oil in seeds (38%), starch in roots and organic acid and protein in fruits. Phenolic acids, carotenoids, quinones, anthraquinones, flavonoids, flavonols, flavones, tannins, coumarins, amines, cyanogenic glycosides, terpenoids, triterpenoids, glucosinolates, non-protein amino acids, polyacetylenes, phenylpropanoids, polypeptides, steroids and saponins. In addition, the plant contains important minerals, vitamins, protein and polyketides. It also includes quercetin, zeatin, β-sitosterol, kaempferol, caffeoylquinic acid and rhamnose. Stem bark contains two important alkaloids, moringin and moringinin. The isolation of vanillin, β-sitostenone, hydroxymellin and octacosanoic acid from the stem bark and leaves indicated the presence of fatty acids and various antioxidant compounds like ascorbic acid and phenolics. Different derivatives of gallic acid, salicylic acid, caffeic acid, indole alkaloid *N*, α-L-rhamnopyranosy lincosamide and four isothiocyanates are present, however, the prominent phytochemical compounds are phenolic acids, myricetin, rutin, chlorogenic acid, glycosides, niaziminin and niazin.
- **Pharmacological action**: *Moringa oleifera* is analgesic, anthelmintic, anti-inflammatory, antiseptic, antispasmodic, diuretic, emmenagogue, expectorant, febrifuge and a laxative. All plant parts have a diverse range of medicinal uses for asthma, coughs, epilepsy, gout, headaches, hepatitis, malaria, rheumatism, abdominal pain, backache, bone fractures, burns, constipation, fever, lacerations, myalgia and parturition. It is employed in the treatment of respiratory illnesses, skin diseases, ear and dental infections, hypertension, cancer, and diabetes, and is antifungal, antioxidant, antibacterial, antiulcer, anti-mutagenic, antioxidant, anti-stress, cytotoxic, anti-tumour, antipyretic, antiepileptic and antinociceptive.
  In folk medicine, the plant is used for stomach aches, children's diseases and as an oil wash for scratches, scabies, boils and pimples. A seed decoction is a tonic, tapeworm killer, hypertensive and febrifuge. The seeds' oil is useful for paralysis, children's spasms, and as an ointment for skin diseases. Its extract stimulates hair growth, and a diarrhoeal material made from stem bark is also used for warts and different skin diseases. The flowers, roots, bark, leaves, stem, and seeds have antimicrobial qualities and/or properties.
- **Other uses**: The plant is a nutrient-dense food source. The flowers, leaves, roots, seeds and even fruits are edible. It is a honeybee plant. The oil is used in soap or fumes and the cortex is a source of fibres. Different plant parts are burned for a nice odour (its aromatic odour is an air freshener) and are used as a flavouring in

salads. It is a photo-medicinal plant and is known as a multipurpose tree because of its wide and esteemed use as food for humans, forage for animals, as well as for alley cropping, fertilizers, green manure, foliar nutrients, ornamental plantings, and biopesticides, in addition to various domestic purposes such as biogas, blue dye, domestic cleaning agents, gum (from tree trunks), honey and sugar cane juice-clarifier (powdered seeds), water purification, ropes, pulp, tannin for tanning hides, machine lubrication (oil), manufacturing cosmetic products and as a traditional medicine. It is also used in windbreaks, and its wood is used for different purposes. The plant is also used for dryland revegetation. Its oil is a component in soaps and also used in the perfume industry, and the bark is a source of fibres.

❖ **Caution**: Excess fruit intake may cause toxicity, liver fibrosis and severe damage to the spleen. The root's bark contains two alkaloids: moringin (=benzylamine) and moringinin. The total alkaloid content in the root's bark is 0.1%. Anti-fertility effects of the aqueous extract of roots have been reported.

Moringa peregrina

Moringa peregrina showing the fruits



- **Arabic name**: Sakari, Basal Al-Zeez, Basal A-Theib
- **Scientific name**: *Muscari comosum* L.
- **Common name**: Tassel Hyacinth, Tassel Grape Hyacinth, Clustered Grape Hyacinth.
- **Family name**: Liliaceae / Alliaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant except the bulb, and the bulb separately.
- **Chemical constituents**: Nigline glycoside, colchicin, muscarin, mucilage, tannin, salts, gum, sugar, kremmydoula (G) pampasciune, lampascione, and vampagiolo (salentine).
- **Pharmacological action**: It is a febrifuge, galactagogue, stomach tonic, anti-acidic, antidote, digestive, aphrodisiac and tonic plant. It is used for scorpion stings, as a uterus lenitive, a cortisone substitute (since it has steroid properties), and as an anti-asthmatic, and it cures joint pain. Its bulbs are diuretic, demulcent and useful for inflamed skin. It contains muscarin, a highly toxic and hallucinogenic alkaloid related to choline. The bulb is a cure for 'luxations and grietes of the joints', and is used for bruises, splinters, gangrene and gout. The bulbs are also eaten raw or boiled to lower cholesterol levels, due to having antiseptic and anthelmintic effects. It is appetizer and diuretic, rich in mucilage and can be applied crushed as a poultice to reddened skin.
- **Other uses**: Boiled bulbs are edible and delicious after being sliced and having salt, olive oil and wine vinegar added to them or preserved in oil and used as a relish.
- **Caution**: The muscarin is highly toxic.

- **Arabic name**: Narjis, Narjas Abiad, Runjus
- **Scientific name**: *Narcissus tazetta* L.
- **Common name**: Daffodil, Chinese Sacred Lily, Bunch-Flowered Narcissus, Joss Flower, Common Narcissus.
- **Family name**: Amaryllidaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Flower, bulb and the whole plant.
- **Chemical constituents**: The bulbs contain a large number of toxic, purgative and emetic alkaloids, among which are pseudolycorine, pretazettine and other alkaloids in different species such as lycorine and benzaldehyde. The flowers contain different percentages of an aromatic yellow oil, ranging between 0.25% in common species to 55% in *N. jonguille*. The oil is made from eugenol, linalool, jasmonoyl-indole, benzyl alcohol, cinnamic acid, benzoic acid, toxic alkaloids, tazettine, fansien, bretiaztein, narceine, narcotine, methyl cedoleucorine, and narcesamine in *N. pselonarcissus,* in addition to sennamil alcohol, benzaldehyde, benzoic acid, fatty oil and wax materials.
- **Pharmacological action**: The plant is analgesic, antiphlogistic, demulcent and emetic. It is used in the treatment of boils, mastitis and cancer. The root is emetic and relieves headaches, and is chopped and applied externally as an antiphlogistic and analgesic poultice for abscesses, boils and other skin complaints.
  In folk medicine, the plant is used against certain forms of cancer, especially bulbs' alkaloids against leukaemia. This might be due to benzaldehyde transforming to laetrile-like compounds or to lycorine changing to lycobetaine-like compounds in the body. It is a neurotonic, anti-spasmodic, antipyretic and anti-epileptic. Its aromatic oil is used in the perfume industry and cleans scarfskin from freckles and spots. As a poultice, it calms furuncles. The alkaloid galanthamine in pseudo-narcissus has a similar effect on the central nervous system, and causes ocular constriction, reduces cardiac motion, and stimulates digestion secretions and digestive system constrictions. It is also emollient, vomit-inducing, and used for boils and mastitis. The root is purgative and used for headaches. Alkaloids in common narcissus prevent blood whitening in rats and are an antivirus, and are also used for some tumours. The plant is a narcotic, painkiller and tranquillizer, the bulb is a powerful emetic and the essential oil is used for rhinitis, bronchitis and whooping cough.

Sometimes, pseudo-narcissus flowers' oil is used to cure sinusitis and whooping cough.

- **Other uses**: It is an ornamental plant with nice aromatic flowers. The aromatic oil is used in perfumes and cosmetics.
- **Caution**: The genus includes some species that may contain some Amaryllidaceae alkaloids such as lycorine, galanthamine, homolycorine and haemanthamine. Bulb alkaloids are toxic, and cause vomiting, diarrhoea, nerve disorders, paralysis and heart and blood pressure disorders. The bulb should not be touched by the naked hand or eaten because it is toxic. A leaf soup causes dizziness, diarrhoea, and vomiting, and touching the bulb during harvesting causes sores on hands which may spread to the face. Ingesting the plant may cause some minor symptoms such as rashes, vomiting or diarrhoea. The plant is known to cause problems in animals. The bulbs are the most poisonous part of the plant, but the leaves and flowers are also poisonous if ingested.

In a home garden

- **Arabic name**: Rashad Mai'i, Quratt Al-Ain, Harf
- **Scientific name**: *Nasturtium officinale* R. Br.
- **Common name**: Common Water Cress, True Water Cress
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, seeds, and stems before flowering.
- **Chemical constituents**: Volatile oil, fibre, protein, sulphuric glycosides, gluconasturtiin that breaks down into fructose and volatile oil (phenyl-ethyl senfol, phenyl-ethyl isothiocyante), raphanol, fibre, protein, the amino acids arginine, histidine, isoleucine, leucine, lysine, threonine, phenylalanine, methionine, tryptophan, valine, folic acid, and coumarins. Nonflowering stems contain glycosomes, and pro-vitamins A, B, C, D, and E. The plant also contains sulpho-nitrogenous oil, iodine iron, phosphates, potash, other mineral salts, bitter extract and water. Its volatile oil is rich in nitrogen combined with some sulfur in the sulfocyanide of allyl, vitamin C and ascorbic acid.
- **Pharmacological action**: The plant is an appetitic, stomachic, appetizer, antibiotic, digestive, antibacterial, diuretic, expectorant, stimulant, antiseptic, antioxidant, tonic, depurative, miscellany, odontalgic, purgative, hypoglycaemic, and cleansing. It is used for scurvy, gallbladder disorders, coughs, asthma, jaundice and tuberculosis. The plant's juice is used for chest and kidney complaints, chronic irritations, and dermatitis; it also promotes hair growth, is used as a poultice for healing glandular tumours or lymphatic swellings, and is a remedy against anaemia, eczema, liver disorders, boils, warts, and tumours. The bruised leaves or their juice are effective in curing blotches, burns, rheumatism, spots and blemishes on the face, and may be applied as a lotion. Fresh leaves are cooked as vegetables and taken orally against constipation. The high content of organically bound iodine makes the herb important in curing all kinds of complaints related to the glandular (including thyroid) and lymphatic systems, for instance struma, goitre, and dermatitis. It is also used against odontalgia. Chewing a bunch of these plants cures toothache and prevents scurvy.
- **Other uses**: The young plant is used raw and in salads mixed with yoghurt. The plant is widely used as a salad herb for its spicy and peppery flavour. Fresh leaves are used in green salads and as a garnish. Watercress is edible and an appetizer, is exceptionally rich in vitamins and minerals, has a mildly hot mustard

flavour, and is very good when used fresh in salads and sandwiches, or when cooked as a potherb. The seeds are ground into a powder and used as mustard, in winter diets and as a soup flavour. Fresh leaves are cooked like vegetables and taken orally. The plant is eaten by ducks, muskrats, and deer.

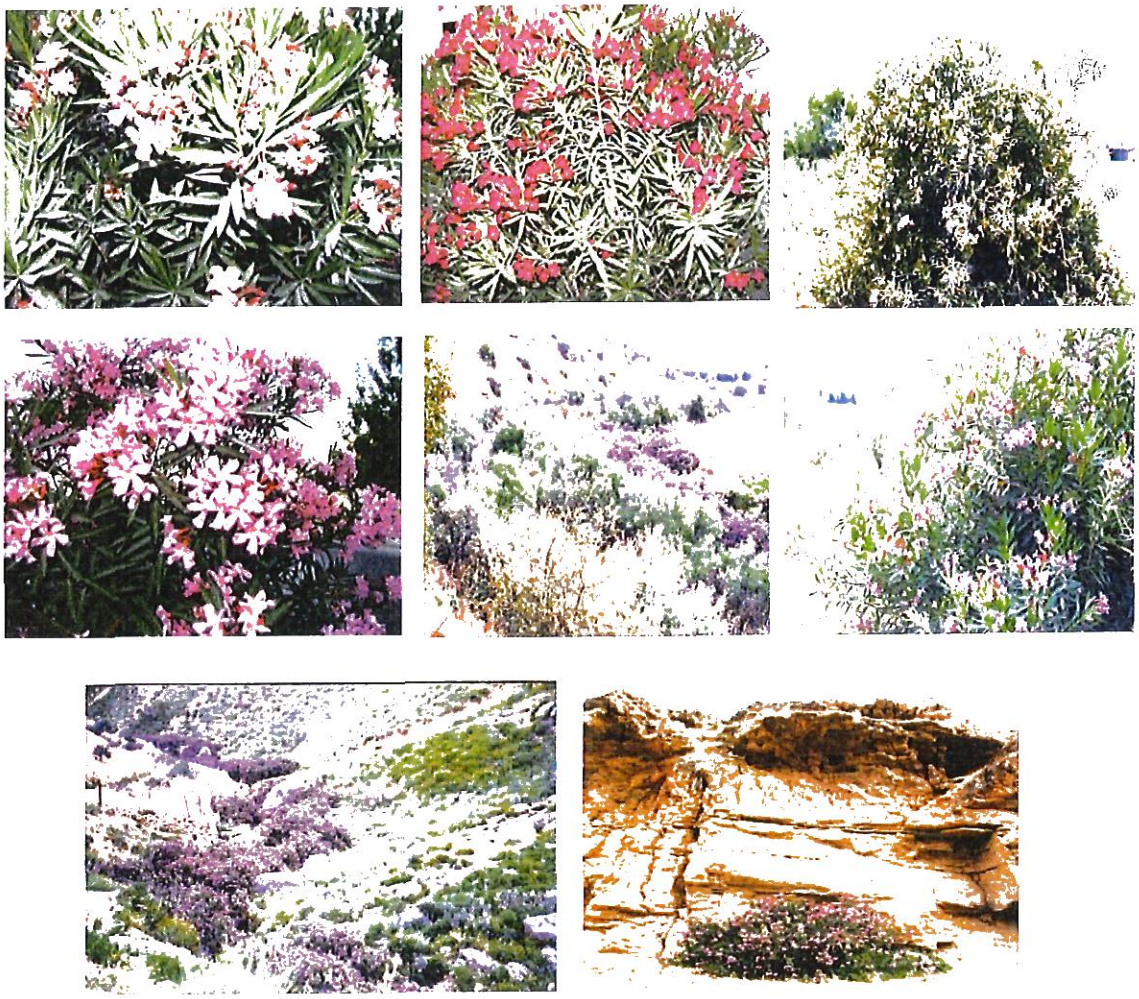
❖ **Caution**: Irritation of the gastric mucosa may develop if the plant is taken in large amounts or for an extended period of time and can lead to stomach upsets. It is never to be used by thyroidal patients and should be taken with full care and caution when used by pregnant women. Its overuse causes digestive disorders and inflammations to the bladder, urine, gallbladder and stomach membranes.

- **Arabic name**: Dufla, Dafla, Tafla, Ward Kathib, Dafal, Sum Al-Himar
- **Scientific name**: *Nerium oleander* L.
- **Common name**: Wild Oleander, Oleander
- **Family name**: Apocynaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Dried leaves, root, stem bark, and latex.
- **Chemical constituents**: Latex includes cardiac glucosides and 0.2-1% oleandrin as pure crystalsin in the leaves and stem. Other glycosides in the plant are niriin, folinerin, neriatrin, corterenin, nirtanthin, adinerin, pseudocurarine and flavone glycosides, one of which is rutin. The seeds contain unknown glycosides and fixed oil.
- **Pharmacological action**: The plant is a cardiotonic and a source of cardiac glycosides. It is used for bronchitis, coughs, sinus problems, jaundice, bone fractures, skin diseases and mouth ulcers. It is also dental, analgesic, anti-migraine, anti-diabetic and anti-alopecia.
  In folk medicine, the plant is a remedy for dermatitis, abscesses, eczema, psoriasis, sores, warts, corns, ringworm, scabies, herpes, skin cancer, asthma, dysmenorrhoea, epilepsy, and malaria; it is also abortifacient, emetic, and cardiotonic, and used for superficial tumours and syphilis. A decoction of oleander leaves has been used for the treatment of gingivitis and as a nose drop for children.
  The cardiac glycosides are traditionally used for the treatment of congestive heart failure as anti-arrhythmic agents to control atrial fibrillation. *Nerium oleander* extract is used to treat cancer. An extract containing the cardiac glycosides has been applied topically to skin conditions, including sunburn, acne, cold sores and ageing spots. Leaves are placed on animals' skin to cure skin ulcers.
  The roots' oil is effective against skin diseases, a leaves decoction strengthens teeth, and the gum is diuretic. The leaves' fat is used for burns, scabies, itching, eczema, dandruff and animal bites. The plant cures toothache.

- **Other uses**: It is an ornamental plant. It has insecticidal effects and a leaf powder is used as bait for rats.
- **Caution**: It is a genus in which some species may contain cardenolide glycosides such as stropeside and oleandrin.

Oleander is extremely poisonous. The drying of plant materials does not eliminate the toxins. It is also hazardous for animals such as sheep, horses, cattle and other grazing animals. Only 100 g is enough to kill a horse. Plant clippings are especially dangerous to horses, as they are sweet; horses have been poisoned by the leaves of the plant. Symptoms include severe diarrhoea and abnormal heartbeat. In humans, symptoms include nausea, vomiting, intestinal colic, respiratory system paralysis, spasms and coma. The ingestion of any plant part, either fresh or dry or from the inhalation of their smoke, should be completely avoided. Its sap is also toxic. The dried or fresh branches should not be used for spearing food, for preparing a cooking fire, or as a food skewer.

Exposure to juice or sap from this plant may produce a skin rash or irritation. The smoke of burned dried plants is extremely toxic and has effects on major body organs such as the liver, heart and kidneys. Cardenolid glycosides including stropeside and oleandrin are present in the aerial parts and roots.



Plants of different flower colours and habitats

- **Arabic name**: Dokhan, Shajar tembak
- **Scientific name**: *Nicotiana glauca* R.C.Graham
- **Common name**: Mustard Tree, Tobacco Tree
- **Family name**: Solanaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Leaves, seeds, and the whole plant.
- **Chemical constituents**: The glycoside rutin, and alkaloids such as anabasine, nicotine, and nicotiline.
- **Pharmacological action**: It is tonic for weak blood vessel walls, sedative and hypnotic. It is used as a poultice for flatulence, swellings, bruises, cuts, wounds, boils, sores, bleeding, tonsillitis, pharyngitis, and adenopathy. A plant decoction is used in a steam bath for rheumatism. Recent studies have suggested that *Nicotiana glauca* can be used as a form of treatment for nicotine addiction, since it is not nicotine but anabasine that is its active ingredient. The plant is rich in alkaloids and cures cystitis and dermatitis, and its fresh leaves are styptic.
- **Other uses**: The plant is sometimes grown as an ornamental, maybe on roadsides, but it is regarded as a wild flower. However, although they are toxic, the leaves have been made into a drink and may be smoked. Nicotine has been extracted and used as an insecticide.
- **Caution**: All parts of the plant are poisonous and contain the toxic alkaloid nicotine. Ingestion of the leaves can be fatal. Symptoms include weakness, nausea, headaches, muscle aches and congestion, ataxia, memorial weakness, breathing difficulties, hypertension, anaemia and death.

The whole plant

- **Arabic name**: Qizha Bariya, Habit Baraka Bari
- **Scientific name**: *Nigella ciliaris* DC
- **Common name**: Fennel Flower, Ciliate Love-in-a-Mist
- **Family name**: Ranunculaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Seeds
- **Chemical constituents**: Oil made from fatty acid and phenolic compounds.
- **Pharmacological action**: It acts against skin diseases. The oil is a strong tranquillizer, carminative, anti-flatulent, diuretic and antibacterial. The seeds are diuretic, anthelmintic and diaphoretic, and are used for congestion, digestion problems, and nerve disorders. Dried pods are inhaled to restore the sense of smell and to repel insects such as moths. The plant is an antioxidant.
- **Other uses**: A wild flower.
- **Caution**: No reports.

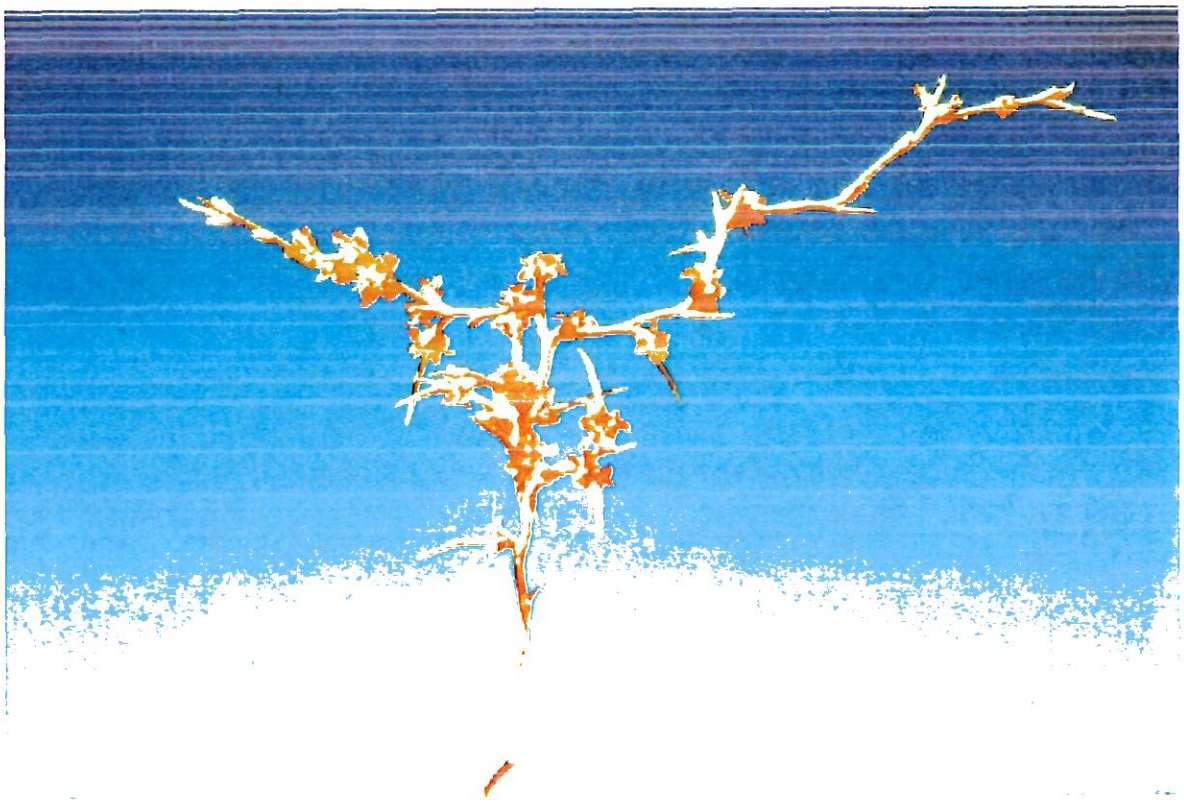
Nigella sp.

849026

- **Arabic name**: Arqad, Gharqad
- **Scientific name**: *Nitraria retusa* (Forsk) Aschers
- **Common name**: Saltwort, Nitraria
- **Family name**: Zygophyllaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Fruits, seeds, and leaves.
- **Chemical constituents**: The plant is rich in alkaloids such as 4-methylin-4-hydro-B-carbolin and a-secinon. It also contains a flavonol trioside, isorhamnetin 3-O-4rham-galactosyl robinobioside, and flavonol glycosides including isorhamnetin 3-robinobioside, isorhamnetin 3-rutinoside, isorhamnetin 3-galactoside, isorhamnetin 3-glucoside and free isorhamnetin in leaves and young stems.
- **Pharmacological action**: The plant is hypotensive and hypoglycaemic. Plant ash removes fluids from infected wounds. A decoction of fresh leaves is used against poisoning and as a cure for stomach disorders, ulcers, gastritis, enteritis, heartburn, colitis and colonic abdominal pain. Fruits are edible and useful in the treatment of urinary tracts. They promote the growth of cells in human cancer patients by inducing DNA apoptosis. The plant is common in highly saline sites in the Jordan Valley and along the Jordan River.
- **Other uses**: The fruits and seeds are edible and the fleshy red fruits are eaten by local inhabitants and used in drinks. The leaves serve as a supplement for tea and are also used as a poultice. The plant is widely used by Bedouins as a source of fuel.
- **Caution**: No reports.

Flowering plant

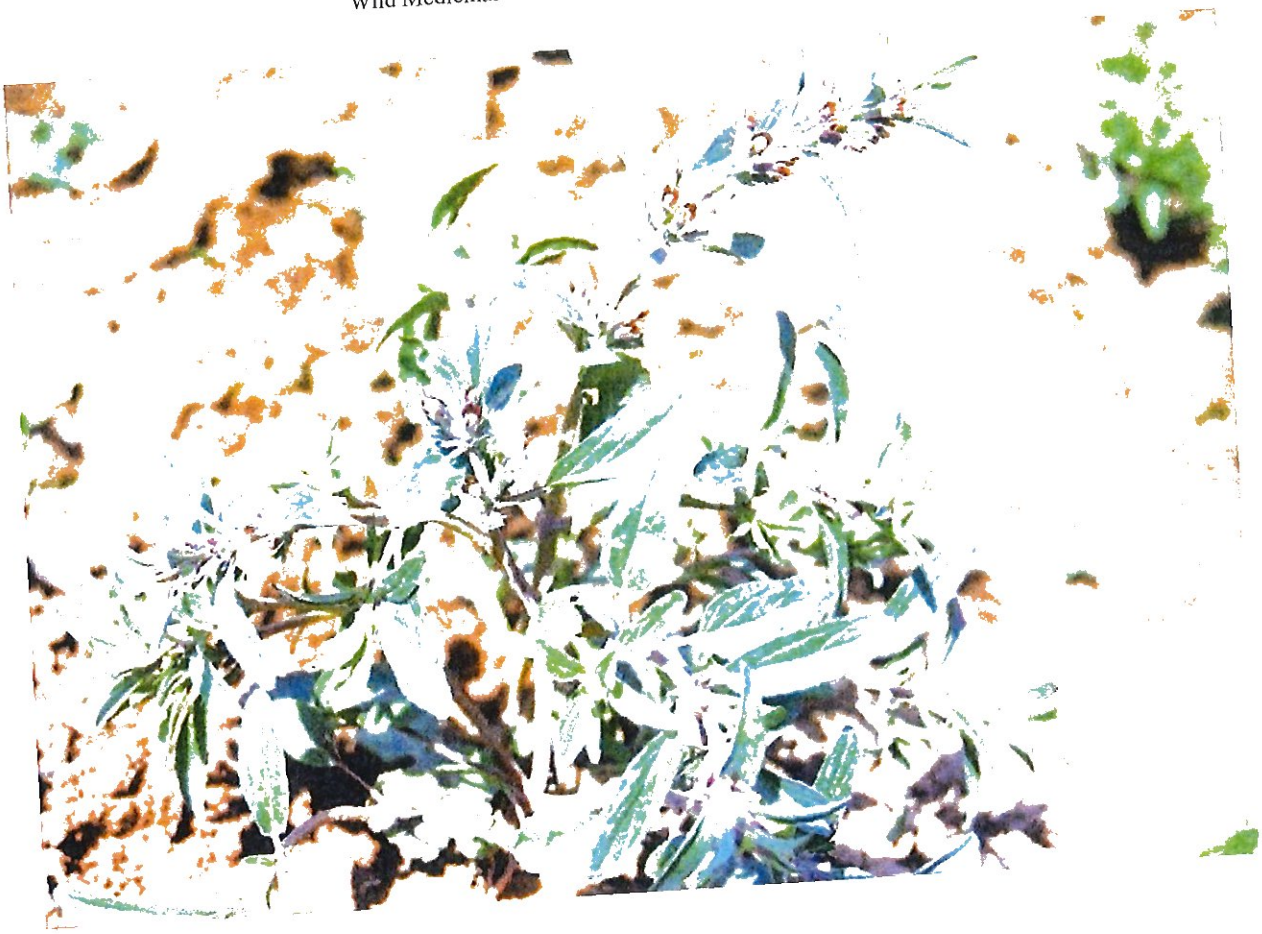
The whole plant



- **Arabic name**: Sirr, Shook Al-Hinsh
- **Scientific name**: *Noaea mucronata* (Forssk.) Asch. & Schweinf.
- **Common name**: Thorny Saltwort
- **Family name**: Chenopodiaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Vegetative parts
- **Chemical constituents**: Protein (13.5%), fat (2.3%), fibres (23%), ash, and free nitrogen (40%).
- **Pharmacological action**: It is a medicinal species reported in Egyptian and Saudi folk medicine as an anti-calculus and a cure for kidney problems.
- **Other uses**: It is an indicator species for poor rangeland management and ecology deterioration. The plant is widely used in cooking, as a source of fuel and for heating. It is of low feed value, but may be grazed by goats and camels. It is regarded as one of the best species for accumulating heavy metals in soil polluted by copper, zinc, lead and cadmium and thus is used in soil restoration. It is a dietary supplement to make up for dietary deficiencies in protein, energy and minerals for livestock in arid regions and wastelands.
- **Caution**: No reports.

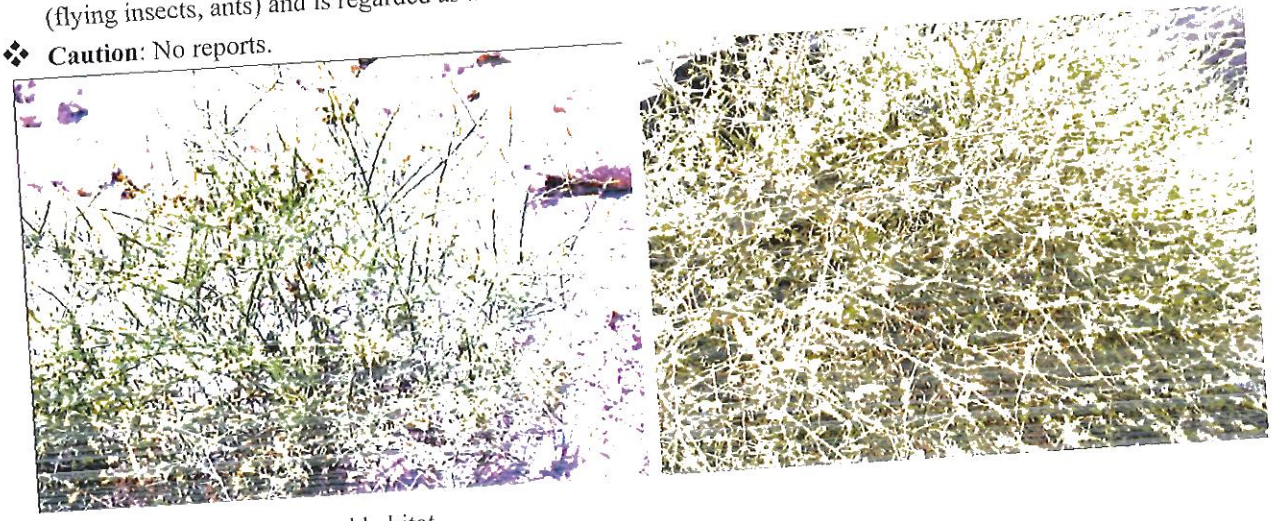
- **Arabic name**: Khurfaish
- **Scientific name**: *Notobasis syriaca* (L.) Cass.
- **Common name**: Syrian Plumed Thistle, Syrian Thistle
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant and seeds.
- **Chemical constituents**: Cnicin, apigenin, luteolin, chrysoeriol, kaempferol, isorhamnetin, apigenin 7-glucoside, and kaempferol 7-glucoside in the aerial parts; schaftoside and isoschaftoside in the fruits.
- **Pharmacological action**: It is believed that the plant acts against alopecia, and it is a remedy for headaches, plague, canker sores, vertigo, and jaundice. It has sometimes been used as a galactagogue in nursing women. It is also used for hepatitis, and regenerates liver cells. It normalizes cholesterol levels by affecting LDL levels, is a blood cleanser, reduces cholecystitis, cures skin diseases, and has anti-narcotic, anti-sclerotic and anti-constipation properties. The crude extracts contain about 0.2% cnicin and are recommended as a galactagogue. The plant is also used as a component in some bitters' formulas and as an antioxidant. It was formerly used for depression.
- **Other uses**: Young leaves, stems, and heads are edible raw or cooked as a stew. It is a common weed.
- **Caution**: No reports.

The plant in its natural habitat



- **Arabic name**: Hathara
- **Scientific name**: *Notoceras bicorne* (Ait.) Caruel
- **Common name**: Horned Hedge Mustard
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant.
- **Chemical constituents**: Flavonoids, tannins, glucosinolate and sterols/triterpenes.
- **Pharmacological action**: The plant shows antimicrobial activity.
- **Other uses**: A common weed.
- **Caution**: No reports.

- **Arabic name**: Ulander, Qordi, Jardi, Ghorzaa, Khaf-Maryam
- **Scientific name**: *Ochradenus baccatus* Del.
- **Common name**: Ochradenus, Qurdi
- **Family name**: Resedaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Leaves and soft flowering branches.
- **Chemical constituents**: Bitter, pectins, pentose sugar, saponin and rutin. Saponins and flavonoids in the leaves and saponins and alkaloids in the aerial parts in general.
- **Pharmacological action**: The plant is an expectorant, diuretic, stimulant and a general tonic. It is useful for rheumatism, joints and feet ailments, scorpion stings and stomach aches.
  In folk medicine, the plant is used for male sexual disorders. The branches, leaves and flowers are placed on wounds and ulcers to kill maggots. The leaves and fruits are used for stomach pains and the whole herb is used for back pain and fistula. It is a flavouring agent.
- **Other uses**: The plant is added in small amounts as a flavour for Jameed. It is also used as an insecticide (flying insects, ants) and is regarded as a wild flower.
- **Caution**: No reports.



In its natural habitat

Fruiting stage

- **Arabic name**: Durreis, Qutb, Orff Al-Deek
- **Scientific name**: *Onobrychis crista-galli* (L.) lam.
- **Common name**: Cock's Comb, Sainfoin
- **Family name**: Zygophyllaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Fruits
- **Chemical constituents**: Polyphenols including tannins and flavonoids.
- **Pharmacological action**: The plant possesses diuretic and anthelmintic properties.
- **Other uses**: Fresh soft fruits are edible raw and have anthelmintic properties, and so reduce the problems associated with livestock worms. Sainfoin contains condensed tannins, and it is these that protect animals against bloating. Sainfoin has also been shown to increase protein absorption. This, combined with other health benefits, means that animals grazing sainfoin have very rapid live weight gains, so young stock can be finished sooner while having very good carcass grades. Sainfoin is therefore extremely useful for low input and organic farmers. Yields can be very high at around 16t DM per hectare.
- **Caution**: No reports.

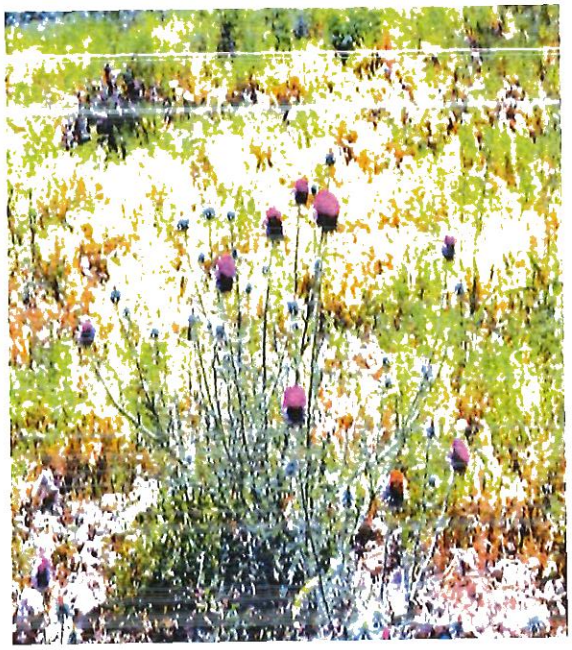
- **Arabic name**: Shibriq, Wasbah, Zaitah, Rasbi
- **Scientific name**: *Ononis natrix* L.
- **Common name**: Sticky Restharrow, Shrubby Restharrow.
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Flowers, leaves, stem, and seeds.
- **Chemical constituents**: 6-(2'R-acetoxy-pentadecyl)-2-hydroxy-4-methoxybenzoic acid. Seed oil is rich in fatty acids (linoleic, linolenic), glycerides and flavonoids. In addition, condensed tannins, saponins, coumarins and terpenes are also present.
  Seeds are rich in proanthocyanidins (prodelphinidin and procyanidin), flavonic aglycones, of which the most important is quercetin, kaempferol, isorhamnetin, nevadensin, penta-hydroxy-5,6,7,3′,4′-methoxy-3-flavon, terpenoids, sterols, 8-hydroxy-6-methoxy-3-undecyl-3,4-dihydroisocoumarin in the aerial parts of the flowering plant, 5-tridecylresorcinol derivative, 3-alkyl-3,4-dihydroisocoumarins, orsellinic acid, N-Δ13-docosenoylanthranilic acid, (22R)-6-(2-acetoxytridecyl)-2-hydroxy-4-methoxybenzoic acid, resorcinol derivatives, eugenol, N-arachidylanthranilic acid, gardenin B, xanthomicrol, hymenoxin, medicarpin-ß-D-glucoside, 5-(2-acetoxy-7-hydroxy-8-oxotridecyl) resorcinol, □-D-glucoside, betulaprenol, steroids, chalcone, dihydrochalcones, flavanones, pterocarpans, and an anthranilic acid derivative.
- **Pharmacological action**: The plant is haemostatic, stomachic, sedative, regulator, anti-bleeding, antibacterial, anti-microbial, diuretic and anti-rheumatic. It is used for urinary disorders and jaundice, and for the treatment of palpitations of the aorta. The flavonoids are cytotoxic.
- **Other uses**: The plant is used for ophthalmic collyrium in livestock. It is a wild flower.
- **Caution**: No reports.

- **Arabic name**: Shibriq, Hasak
- **Scientific name**: *Ononis spinosa* L.
- **Common name**: Spiny Restharrow, Tall Spiny Restharrow, Cammock, Restharrow
- **Family name**: Leguminosae / Fabaceae
- ***Growth habit***: *Shrub*
- **Life cycle**: Perennial
- **Part/s used**: Roots, leaves, bark, flowers, and rarely the whole plant.
- **Chemical constituents**: Triterpenoid saponin, isoflavones, spinonin, phenolic acids including salicylic, p-hydroxybenzoic and vanillic, flavonoid-O-glycosides, flavones, ononin hydrocarbons from the essential oils of roots and tops, and tannin; essential oil contains menthone, isomenthone, camphor, linalool, menthol, estragole, borneol, carvone, and cis- and trans-anethole, flavone glycoside (ononin), ononide glycoside, resin, lectins, trifolirhizin, D-ononitol, D-pinitol, mesoinositol, D-inositol, L-leucanthemitol, and small amounts of sequoyitol, trifolirhizin, phytoagglutinin from the roots, and triterpenoids.
- **Pharmacological action**: The plant is diuretic and lithotriptic. The roots, leaves and flowers are anti-tussive and aperients.
  The root contains an anti-diuretic fixed oil and a diuretic essential oil widely used as a diuretic drug. A root infusion treats dropsy, nephritis, cystitis, rheumatism and chronic skin disorders. A cough mixture is made from the bark. Plant extracts and royal jelly are used as lipase inhibitors, and can be taken orally and topically for inhibiting lipid bioabsorption, treating acne, improving hyperlipidemic conditions, and preventing obesity. The plant is used for gravel, urinary system inflammations, gout and rheumatism. A root decoction is diuretic, haemorrhoid styptic and rarely diaphoretic. It has depurative, antibacterial, antimicrobial, cholagogue and hypotensive properties. A root tincture is lenitive and the roots are used for different body disorders. A decoction of the flowering parts is used for eczema and in treatments of kidney stones and urinary disorders.
- **Other uses**: Young fresh shoots are eaten raw. The plant is a wild flower.
- **Caution**: The plant should only be used under strict medical supervision.

- **Arabic name**: Shook Al-Hemar, Shuka'a, Utour, Shook, Qandarees
- **Scientific name**: *Onopordum anisacanthum* Boiss
- **Common name**: Cotton Thistle, Scotch Thistle
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Biennial or Perennial
- **Part/s used**: Flowers, young leafy branches, and the whole plant.
- **Chemical constituents**: The fruits contain moisture, wax, and phenolic compounds. Coumarins, flavones, flavone glycosides, and sesquiterpenic lactones are also present in the plant.
- **Pharmacological action**: The flowering plant is cardiotonic. It is used in some proprietary heart and nerve medicines, and for cancer, rheumatism, and haemorrhoids. It is diuretic and stimulates smooth muscles' motion in the intestine, stomach and gallbladder. The plant's decoction is coagulant and antiseptic. In folk medicine, the plant is used for cancerous tumours, cystitis, fever, wounds and purulence. The juice is antiseptic, and has been traditionally used successfully in the treatment of cancers and ulcers. The root's decoction is applied to a bald head to restore hair growth. The plant is anti-bleeding, astringent for wounds, treats pharyngitis, reduces mucus discharge, and is a demulcent ointment.
- **Other uses**: It is a wild flower. The flower receptacle is cooked exactly like that of the artichoke and young plants are cooked like spinach.
- **Caution**: No reports.

- **Arabic name**: Atoor
- **Scientific name**: *Onopordum macrocephalum* Eig.
- **Common name**: Scotch thistle, Cotton Thistle
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Biennial
- **Part/s used**: Aerial parts.
- **Chemical constituents**: Methanolic and dichloromethane flavonoids, coumarins, and flavonolignans.
- **Pharmacological action**: The plant is hypotensive, anti-tumour, antimicrobial, antioxidant and antibacterial. It is used in folk medicine for the treatment of some diseases related to bacterial infections and liver diseases.
- **Other uses**: A wild flower and weed.
- **Caution**: No reports.

Onopordum transjordanicum



Onopordum palaestinum

Different *Onopordum* species

- **Arabic name**: Mussais
- **Scientific name**: *Onosma echioides* L.
- **Common name**: Onosma
- **Family name**: Boraginaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Rhizome, dried stems, and the whole plant.
- **Chemical constituents**: Poisonous alkaloids among which are the pyrrolizidine alkaloids, flavonoids, and naphthoquinones of alkannin and shikonin derivatives.
- **Pharmacological action**: The plant is alterative, laxative and stimulant. The leaves are made into a powder and given to children as a purgative. The flowers are used as a cordial and stimulant in the treatment of rheumatism and palpitations of the heart. The root is bruised and used as an external application for skin eruptions. The plant is successfully used for ulcus cruris resulting from varicose veins, ulcers, and skin eruptions, and is therefore produced in an ointment form, which is named Histoplastin Red. The plant is an antiseptic and emetic, and is used for rheumatism, bronchitis, wounds, snake bites, burns, and urinary calculi. *Onosma* spp. treat haemorrhoids and possess anti-inflammatory and anti-nociceptive properties. Flavonoid-type compounds in the *Onosma* species were found to inhibit lipoxygenase enzyme activity. Naphthoquinones of alkannin and shikonin derivatives in the root bark possess anti-inflammatory activity.
  In folk medicine, the leaves and flowers are finely chopped and, after being mixed with honey, the paste is consumed for rheumatic pains and as a heart tonic. Tender roots are vigorously rubbed over granite and the resulting pulp is used as an antiseptic for wounds. The flowers are prepared as a drink for rheumatism and heart palpitations, and an infusion of dried flowers is used for respiratory ailments, influenza and tuberculosis.
- **Other uses**: A wild flower.
- **Caution**: Plants of the *Onosma* genus have toxic alkaloids. Their internal use is not recommended. Pyrrolizidine is a carcinogenic compound and thus the plant should never be taken orally; only its formulations are locally used.

Onosma spp.

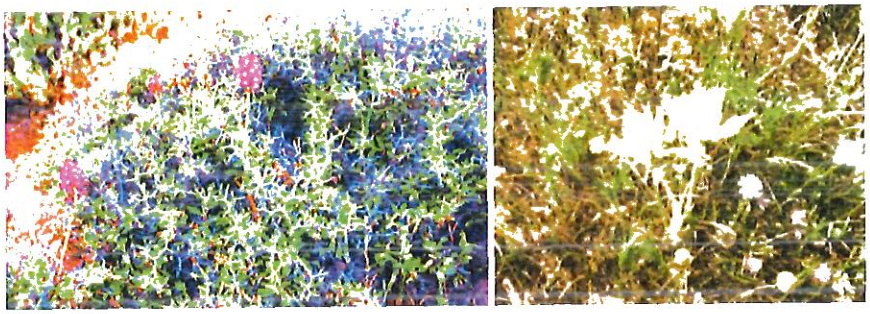
- **Arabic name**: Orchid al-Nahla Al-Qatema
- **Scientific name**: *Ophrys fusca* Link
- **Common name**: Somber Flee Orchid
- **Family name**: Orchidaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant.
- **Chemical constituents**: The plant is rich in mucilage.
- **Pharmacological action**: It forms a soothing and demulcent jelly that is used in the treatment of gastrointestinal irritations.
- **Other uses**: A wild flower.
- **Caution**: No reports.

- **Arabic name**: Rakeed, Sahlab Abqai, Khesei Al-Kalb, Khesei Al-Thailab, Qatil Akheih, Sahlab
- **Scientific name**: *Orchis* spp.
- **Common name**: Orchis
- **Family name**: Orchidaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The stem and young tubers collected during flowering and before the plant has died.
- **Chemical constituents**: Mucilage (47-50%), albumin, carbohydrates, proteins, essential oil, salts, and moscatilin, which is found in the stems of the orchid species *dendrobium*. Tubers contain 30% starch, 13% dextrin, sugars including sucrose, volatile oil, proteins and salts.
- **Pharmacological action**: The plant is an emollient, stomachic, and anti-diarrhoeal, mainly for children. It is marketed as a detoxicant. Dried orchids are used for a range of purposes, such as for building up the immune system, for cancer treatment, for eye-sight improvement, for regaining strength after healing (for healers) and for a quick recovery after sex. It stops bleeding from ulcers. It is a stimulant and is used for intestinal inflammations, and is also useful for the urinary system and tuberculosis. An orchis solution at 1-2% is used as a spreader in pharmacological formulations and for stomach aches.
- **Other uses**: An orchis drink is nutritive when sweetened with sugar, milk and nuts. It provides the body with energy and is preferable during the winter season.
- **Caution**: No reports.

Orchis anatolica

Orchis tridentata

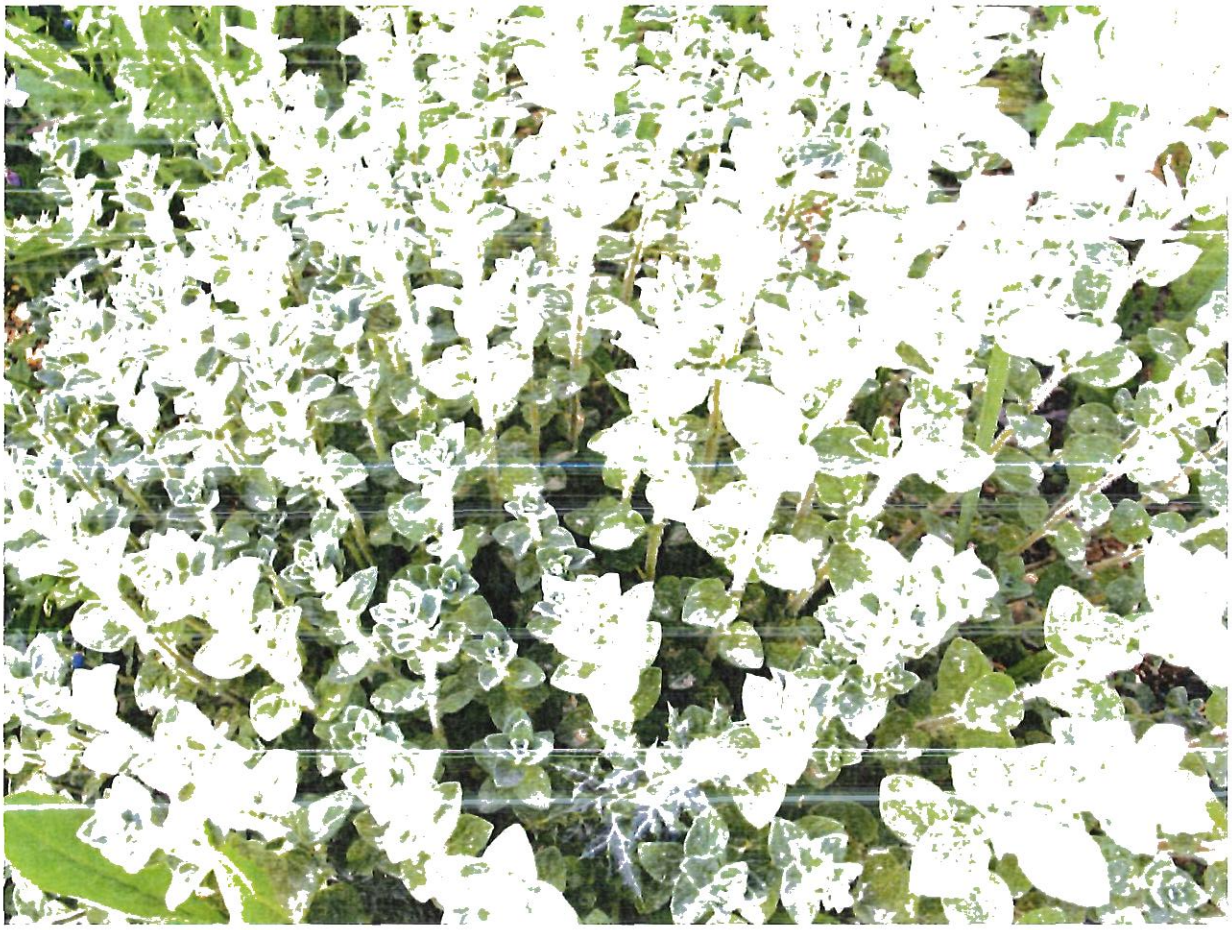
Orchis punctulata



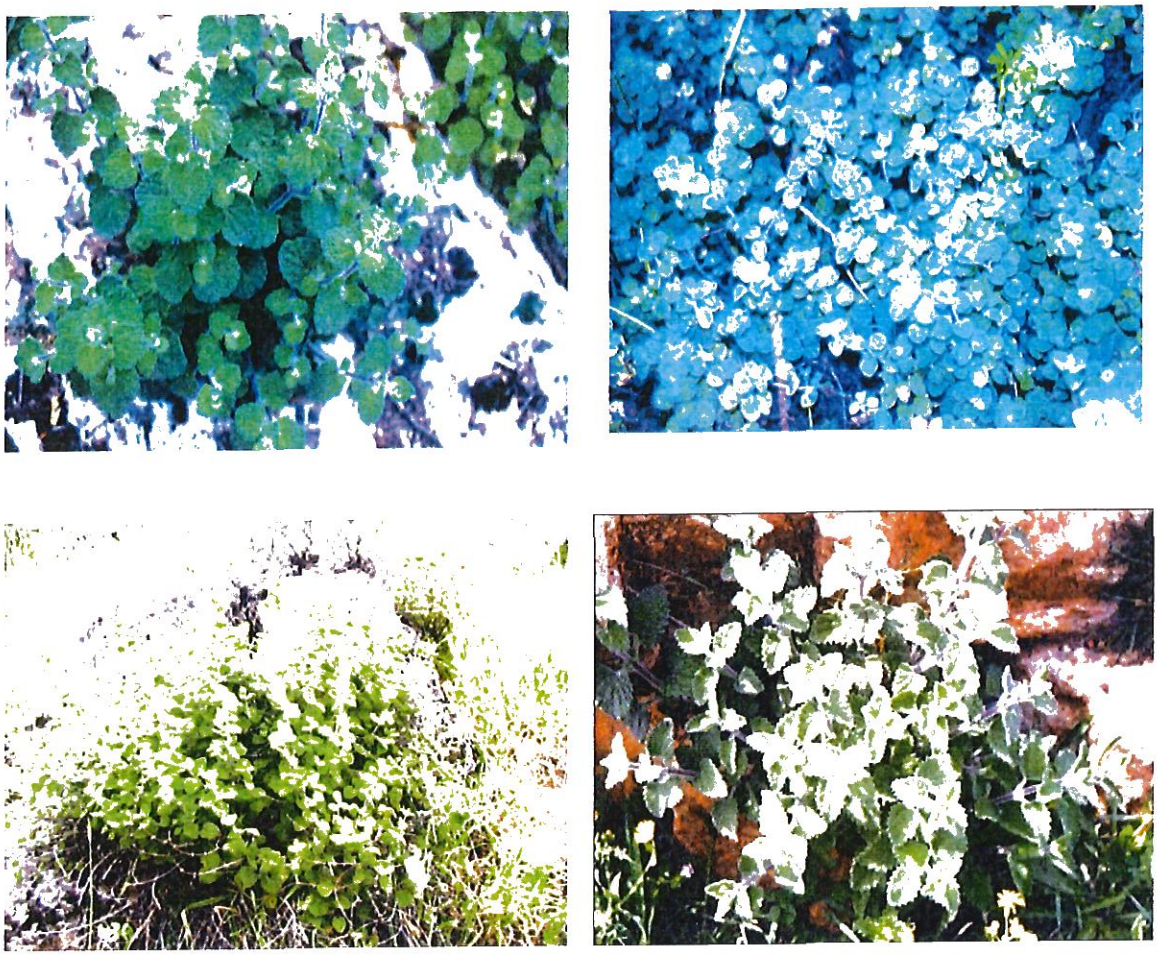
Different *Orchis* species in Jordan's flora

- **Arabic name**: Za'atar Baladi, Za'atar Khalili
- **Scientific name**: *Origanum syriacum* L.
- **Common name**: Wild Marjoram, Syrian Marjoram, Hyssop
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant, oil, and vegetative organs.
- **Chemical constituents**: The plant contains volatile oils in seeds and leaves. The oil is primarily made from thymol, thymol-carvacrol, carvacrol, cis-sabinene hydrate, □-terpinene, p-cymene and terpinene-4-ol, prenylated biflavone, vicenin, vitexin, isovitexin and isoorientin. In addition, monoterpene glucosides and monoterpene are present. The main monoterpenes in the essential oil are menthone, pulegone p-menth-1-en-4-ol, 1,8-cineole, flavonoids, and tannins. The plant also contains adoriganin, rosmarinic acid, resin, camphor material, aroma, terpene, and a bitter element.
- **Pharmacological action**: The plant is one of the most important medicinal and food herbs. Its decoction is useful in cases of bronchitis and respiratory problems. It is anti-tussive, antispasmodic, antiseptic, adodyne, antioxidant and hypotensive. It is used against whooping cough and is also a cure for arthritis, and relieves ailments. The oil is carminative, and is included in a composition of drugs for rheumatism, eczema, and stomach ulcers. Externally, it is used in massages for neural inflammation, and neck muscle aches. The plant vapour is used for sinusitis. The oil and the plant are sedatives and carminatives. The leaves' infusion is expectorant, anti-tussive and anti-colic, and is used for liver and colon problems, and dysmenorrhoea. It is hypotensive, cholagogue, effective against chest inflammation, digestive, and laxative. It is a remedy for cholecystitis, tonsillitis, bronchitis, asthma, throat sores, headaches, and migraines, and is also a nerve relaxant. It cures glaucoma because of its antioxidant activity. Thymol is antiseptic and expels worms from the stomach, while carvacrol is sedative, antiseptic, stimulates blood circulation, an amoeba killer, anti-dysenteric, anti-typhus, and useful for backaches, lung and asthma inflammations, liver and gallbladder congestion, and sliming.
  The essential oil is antioxidant and antimicrobial, and is used against mosquitos. A hypoglycaemic, it treats tooth decay, gum infections, and coughs. Origanum tea aids digestion and a plant extract with aromatic oils is hypoglycaemic and reduces blood sugar by 15%. An aromatic bath with the plant's decoction is a nerve relaxant.

- **Other uses**: Fresh or dried young stems and leaves are used as salad seasoning and dough stuffing. They are used dry as an ingredient in a thyme mixture. The essential oil is a potent mould inhibitor which can be employed as a food preservative. Dried ground leaves and flowers are used as a spice on meat and chicken. The whole plant and dried leaves protect fruits and vegetables from pests. The oil is used in cosmetics, perfumes, soap and in food canning and for mould control. It is regarded as an aromatic plant and is used as a spice.
- **Caution**: An excessive use of *O. syriacum* may cause sleepiness, especially when taken in the evening, and it is a muscle relaxant.



The plant at the vegetative growth stage in nature



Other *Origanum* spp. in Jordan

- **Arabic name**: Nagmat Beithlehem, Laban Al-Tair Al-Tarboni
- **Scientific name**: *Ornithogalum narbonense* L.
- **Common name**: Narbonne Star-of-Bethlehem, Pyramidal Star-of-Bethlehem, Southern Star-of-Bethlehem
- **Family name**: Liliaceae / Alliaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Shoots.
- **Chemical constituents**: Cinnamic, p-coumaric and quinic acids.
- **Pharmacological action**: The plant has antioxidant and anti-cancer activities.
- **Other uses**: A wild flower.
- **Caution**: It is a poisonous plant.

- **Arabic name**: Ajras Beit-Lahem, Najmia Beit Lahem
- **Scientific name**: *Ornithogalum umbellatum* L.
- **Common name**: Winter Hyacinth, Common Star-of-Bethlehem
- **Family name**: Liliaceae / Alliaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Bulbs and leaves.
- **Chemical constituents**: Cardiac glycosides, convallatoxin, mucilage, sulfur and volatile oil. Phenols, flavonoids, tannins, terpenoids, saponins, and steroids are present in the bulbs and aerial parts, while cardiac glycosides are only present in the bulbs.
- **Pharmacological action**: The plant is used for gout, rheumatism and cardiac problems. It is used in folk medicine, and a decoction of leaves or flowering branches is used as an antiseptic. The bulb is useful for cancer.
- **Other uses**: The bulb is nutritive, edible, and was formerly eaten fresh or cooked. A pigment can be obtained from the plant. The plant is a wild flower.
- **Caution**: It is a poisonous plant that causes intestine disorders, nausea, permanent blindness, dermatitis in humans and death to cattle. Exposure to juice or sap from this plant may produce a skin rash or irritation. Skin wounds can be extremely painful, causing large blisters and skin burning. The plant is known to cause problems in animals. It is a genus in which some species may contain cardenolides.

Ornithogalum sp.

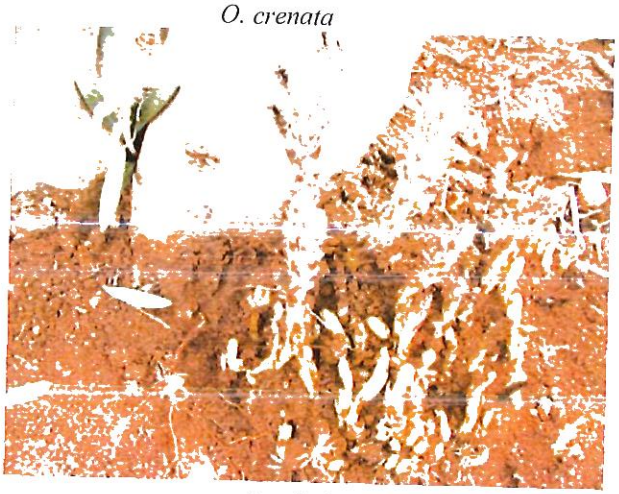
Orobanche ramosa L.

- **Arabic name**: Halouk
- **Scientific name**: *Orobanche* spp.
- **Common name**: Broomrapes
- **Family name**: Orobanchaceae
- **Growth habit**: Parasitic herb
- **Life cycle**: Annuals
- **Part/s used**: Stem
- **Chemical constituents**: Alkaloid(s), tannins, organic acids, reduced sugars, glucosides, resins and unsaturated substances.
- **Pharmacological action**: It was considered in the past as an important medicinal plant and was used both internally and externally, but at present its use is much reduced. *Orobanche* are parasitizing *Genesta* and *Brassica napus* are used as astringents for wound healing, skin edema treatment and psoriasis infections. They are diuretic, expectorant, fragment stones and reduce heart constrictions. Other species of *Orobanche* parasitize forage species such as medic and trefoil and wild species such as *Centaurea* and *Galium verum*, and wild thyme is recommended for external wounds. Internally, *Orobanche* are sedative, antispasmodic and anti-diarrhoeal. *Orobanche aegyptiaca*'s aqueous extract stimulated the contractions of frog hearts and rat intestines, but inhibited uterine contractions in rats and produced marked diuresis in rabbits. The alkaloid residue proved to possess a powerful hypotensive effect through a direct effect on the arterial wall and was of very low toxicity. Accordingly, it can be applied in the treatment of hypertension, especially in cases complicated by heart failure resulting from heart debility.
- **Other uses**: The new growth of certain species (*Orobanche* on *Galium verum*) is used as a food as a substitute for asparagus.
- **Caution**: *Orobanche* cause gastrointestinal disorders in animals, anorexia, feebleness, thirst, and increase urination. The genus includes species that may contain substances of concern. *Orobanche* are parasitic plants and use the sap of host plants. If, for example, quinolizidine alkaloids (e.g. sparteine) are present in the host then these alkaloids are also found in *Orobanche*.

O. aegyptiaca

O. crenata

O. cernua



O, schultzii

O. palaestina

Different *Orobanche* species

- **Arabic name**: Osyris, Osyris Abyad, Al-Etq
- **Scientific name**: *Osyris alba* L.
- **Common name**: Osyris
- **Family name**: Santalaceae
- **Growth habit**: Hemi-Parasitic Shrub
- **Life cycle**: Perennial
- **Part/s used**: Ends of young and soft branches, and the whole plant.
- **Chemical constituents**: Scoparine, genistein, sarothamine and pyrrolizidine flavones, quinolizidine alkaloids, osyrisine, catechin, catechin-3-*O*-α-l-rhamnopyranoside, sparteine, *N*-methylcytosine, cytisine, methyl-12-cytisine acetate, hydroxy-*N*-methylcytosine, *N*-acetylcysteine, lupanine, anagyrine, 1-carboxypyrrolizidine-7-olide, senecionine, integerrimine, retrorsine, senecivernine and the new alkaloid janfestine (7R-hydroxychysin A or 1R-carbomethoxy-7R-hydroxypyrrolizidine). α–amylase, one new pyrrolizidine alkaloid, phytoferritin, P and K, protocatechuic, 4-hydroxybenzoic, p-coumaric, and isoferulic acids are also present as well as rutoside, isoquercitroside, and (after acid hydrolysis) quercetol and kaempferol, D-mannitol, hexaacetate, acetylenic acid and enoic acid. The plant also contains carbohydrates, amino acids, dotriacontanoic and 2-octenoic fatty acids, and phenolics. Engeletin, salvigenin, pachypodol, kumatakillin, penduletin, jecidiene, kaempferol-7-methyl ether, b-sitosteryl glucoside, triterpenoids, ursolic acid, oleanolic acid, and p-hydroxybenzoic acid are also present.
- **Pharmacological action**: The plant is hypoglycaemic. Its extract is mostly used for controlling glucose after sucrose ingestion and also exhibited the highest inhibitory activity on α-amylase *in vitro*. It is antibacterial, anti-parasitic, antimicrobial and anti-bleeding and used against edemas. Plant extracts, mainly methanol and butanol extracts, exhibited a significant level of anti-parasitic activity against *Entamoeba histolytica* and *Giardia intestinalis* and against cancer (Hep-2) and non-malignant (Vero) cells. Extracts are useful in the control of postprandial blood glucose, their effects being achieved mainly through the inhibition of carbohydrate-metabolizing enzymes (amylases and glucosidases). Due to the mechanism involved in controlling blood glucose, such plant extracts are also expected to be helpful in the management of obesity.
  In folk medicine, some herbalists sell the plant for use in the treatment of amoebic dysentery. The leaves and seeds are an aphrodisiac and are used for alopecia.
- **Other uses**: Quinolizidine and pyrrolizidine alkaloids serve as defence compounds against herbivores.
- **Caution**: No reports.

Flowering plants

- **Arabic name**: Hammad Bustani
- **Scientific name**: *Oxalis corniculata* L.
- **Common name**: Yellow Wood Sorrel, Creeping Wood Sorrel, Procumbent, Yellow Sorrel, Sleeping Beauty, Indian Sorrel
- **Family name**: Oxalidaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves and the whole herb.
- **Chemical constituents**: The leaves are good a source of vitamin C, calcium, carotene, alkaloids, flavonoids (isovitexin, 2-heptenal, 2-pentylfuran, and trans-phytol (3,7,11,15-tetramethyl-2-hexadecene-1-ol), ferritin and anthocyanins. The plant also contains oxalic acid, mucilage and oxalates.
- **Pharmacological action**: The plant is anti-hyperglycaemic, hypotensive, anthelmintic, depurative, emmenagogue, febrifuge, lithotriptic, styptic, astringent, antiphlogistic, anti-scorbutic, stomachic, antipyretic, antiseptic, refrigerant, diaphoretic, diuretic and anti-diabetic. The plant is used in the treatment of influenza, stomach infections, fever, urinary tract infections, enteritis, diarrhoea, traumatic injuries, sprains and poisonous snake bites. The plant's juice is given for stomach trouble, and lowers the body temperature and acts against jaundice. The juice, when mixed with butter, is applied to muscular swellings, boils and pimples. The leaves' juice is used for bloody diarrhoea, prolapse of the rectum, painful swelling or inflammation and disorders of the abdomen. It is also applied to insect bites, burns and skin eruptions and has antibacterial activity. A plant decoction is good medicine for fever, is applied on warts and infected places for their removal, and cures dysentery and jaundice. Leaf paste is externally applied over the forehead for headaches. It is used for asthma and diseases of the throat, quinsy, and is a blood purifier, and an infusion from fresh plants is a tonic and laxative for digestion and can be used as a wash to rid children of hookworms. The leaves are an antidote to poisoning by the seeds of *Datura* spp, arsenic and mercury. The plant's paste is applied on fire burns. Fresh leaves are crushed and the paste is applied topically for worms and scorpion stings.
- **Other uses**: A drink can be made from a leaves infusion. The leaves can be consumed in the form of chutney or in salads in small amounts for a sour taste. The leaves are a good source of vitamin C, calcium and carotene. Fresh leaves have a tangy taste of lemon, and are macerated with sugar and used in preparing

drinks. Yellow, orange and red to brown dyes are obtained from the flowers. The boiled whole plant yields a yellow dye.

- **Caution**: Any wood sorrel is safe in low dosages, but if eaten in large quantities over a length of time it can inhibit calcium absorption by the body. The plant contains oxalic acid that forms calcium oxalates and thus kidney stones. Oxalic acid is harmful at 4-5 g doses, and causes calcium deficiency, muscular twitching, trembling, staggering, and sudden death. People with a tendency to rheumatism, arthritis, gout, kidney stones or hyperacidity should take special caution when including the plant in their diet since it can aggravate their conditions.

Seeding stage

- **Arabic name**: Hammad Bustani, Hammad Al-Eid, Baqli Hamidah, Nafal Hamid
- **Scientific name**: *Oxalis debilis* H.B.K.
- **Common name**: Pink Sorrel, Pink Wood Sorrel
- **Family name**: Oxalidaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves and young stems.
- **Chemical constituents**: Leaves contain oxalic acid, ascorbic acid, mucilage, oxalates, luteolin and apigenin derivatives.
- **Pharmacological action**: The plant is antipyretic, anti-diabetic and anthelmintic. It cures edema and asthma, heals sores, especially in the mouth, old sores and "cancers" on the skin as well. It has also been used to cool fevers and treat urinary problems. The juice of the whole plant is used on cuts/injuries and fire burns. It cures boils, swelling, labour pains and is a laxative. The leaf is a painkiller and is used in ear treatments.
- **Other uses**: An ornamental plant, it is also a cultivated or partially tended weed.
- **Caution**: The plant contains oxalic acid, which is toxic in very large doses.

Flowering plant

- **Arabic name**: Hammad Bustani, Hammad Al-Eid, Baqli Hamidah, Nafal Hamid
- **Scientific name**: *Oxalis pes-caprae* L.
- **Common name**: Bermuda Buttercup
- **Family name**: Oxalidaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves and young stems.
- **Chemical constituents**: Leaves contain oxalic and ascorbic acids, mucilage, oxalates, polyphenolics, luteolin and apigenin derivatives. Three luteolin derivatives and three apigenin derivatives were identified from the polyphenolics of the plant.
  Cinnamic ester derivatives, ester and phenyl cinnamate derivatives, aromatic compounds and phenols were found in leaves and twigs, and phenyl cinnamate derivatives and polyphenolic compounds were found in extracts of the aerial parts.
- **Pharmacological action**: A fresh plant decoction and juice are used as drinks, antiseptics and diuretics, and are used externally as poultices for healing pains and wounds. *Oxalis* can be used in herb medicine to combat scurvy and to alleviate fever. The extract showed antioxidant activity and standardized luteolin and apigenin derivatives showed neuroprotective potential, particularly homoorientin. Several *Oxalis* species have been used in folk medicine, particularly the roots, owing to their diuretic properties, as well as the leaves, due to their antihypertensive effects.
  The plant has pleasant-tasting digestive compounds, and is used against dermatitis and an irritable alimentary canal.
- **Other uses**: Fragile leaves, flowers and stems are used in salads, soup, vinegar and as a sauce for roasted meat. The leaves are used raw or cooked.
- **Caution**: The genus includes some species that may contain oxalates and oxalic acid. Oxalate causes inflammation and is toxic in high doses. Its excessive use is harmful for patients with kidney and gallbladder stones, and its alkalinity causes calcium deficiency, muscular twitching, trembling, staggering, then death. Oxalic acid is a toxic compound that might cause nervous system paralysis in large herbivores when consumed in great quantities. Acute and chronic oxalate toxicity in miniature horses is associated with plant

ingestion. The leaves contain oxalic acid. This is perfectly alright in small quantities, but it should not be eaten in large amounts since it can bind up the body's supply of calcium, leading to nutritional deficiency. The amount of oxalic acid will be reduced if the leaves are cooked. People with a tendency to rheumatism, arthritis, gout, kidney stones or hyperacidity should take special caution when including this plant in their diet since it will aggravate their condition.

As an ornamental plant

- **Arabic name**: Bakhoor Mariam, Ain Al-Thoor
- **Scientific name**: *Pallenis spinosa* (L.) Cass.
- **Common name**: Starwort, Prickly Oxeye
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves and roots.
- **Chemical constituents**: Sesquiterpenoids.
- **Pharmacological action**: The leaves are used for eczema, and the roots are anti-rheumatic and are used for muscular contractions, tiredness, vomiting for newborns, diabetes, headaches, and as a disinfectant.
- **Other uses**: A wild flower.
- **Caution**: No reports.

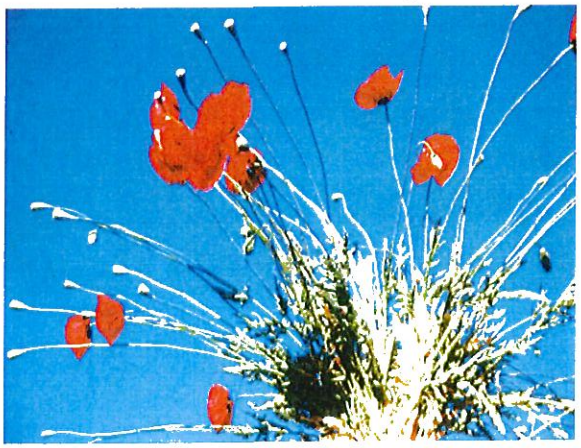
Other species

- **Arabic name**: Thamam, Ithmam
- **Scientific name**: *Panicum turgidum* (L.) Spach.
- **Common name**: Turgid Panic Grass
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant, leaves, bough, and seeds.
- **Chemical constituents**: Flavonoids.
- **Pharmacological action**: *The plant is anti-hepatotoxic. It is a disinfectant in cases of smallpox. It is used as a* wound bandage and the smoke is used for fumigating wounds, and the drug is also used for throat infections and skin diseases.
  In folk medicine, local inhabitants chew the plant to treat toothache and use its extract for wounds. It is also used for removing eyespots.
- **Other uses**: The plant is used by Bedouins during famine periods. It is a good forage plant and a sand dune binder.
- **Caution**: No reports.

Plant population

- **Arabic name**: Shaqa'iq Al-Nuiman, Hanoon Ahmar, Khushkhash, Manthoor, Khushkhash Ahmar
- **Scientific name**: *Papaver rhoeas* L.
- **Common name**: Field Poppy, Corn Poppy, Corn Rose, Flanders Poppy, Red Poppy, Red Weed, Coquelicot
- **Family name**: Papaveraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Flowers (mainly the petals), fruits, leaves, seeds and the whole plant.
- **Chemical constituents**: The chief constituent of the fresh petals is the red colouring matter, which consists of rhoeadic and papaveric acids. This colour is greatly darkened by alkalis. All parts of the plant contain the crystalline non-poisonous alkaloid rhoeadine. The amount of active ingredients is very small and rather uncertain in quantity. There is great controversy as to the presence of morphine. Also, it has not been determined whether meconic acid, which is present in opium, is a constituent. Other alkaloids that have also been mentioned include papaverin, thebaine, derperin and isoquinoline. The other constituents are mucilage, anthocyanin, mecocyanin, papaveric acid, rhoeadic acid and potassium nitrate.
- **Pharmacological action**: The plant is anodyne, anti-cancer, emmenagogue, emollient, sedative, expectorant and hypnotic. A red dye can be obtained from the flowers, though it is very fugitive. The plant is included in hair generation and hair growth stimulating compositions with seeds, and is used for coughs, calefaction, skin buttons, and throat infection and irritation. Its petals are tonic, antioxidant, anti-tussive, anti-dysenteric, antiphlogistic, antispasmodic, a cure for diabetes and insomnia, are soporific and a mild pain reliever, and reduce nervous over-activity. A plant infusion is taken internally in the treatment of bronchial complaints, poor digestion, nervous digestive disorders and minor painful conditions. The flowers are used in the treatment of jaundice. The latex in the seedpods is a narcotic, and can be used in very small quantities under expert supervision as a sleep-inducing drug, and is useful in the treatment of low fevers. It is a musculotropic depressant. The plant is also used for whooping cough and pharyngitis, and is useful for chest problems and as a diaphoretic. The intake of the plant's decoction or its wash cures leucoderma.
  In folk medicine, the syrup from the plant's fruits and flowers is used as an emollient and sedative for whooping cough, and eye lotions are obtained from its fruits.

- **Other uses**: It is a wild flower. It is included in a composition for insect control against *Manduca sexta* (tobacco hornworm) larvae. The syrup made from the petals is a colouring matter for old inks. The red petals are used to add colour to potpourri. The seeds are used raw or cooked as a flavouring agent in cakes, bread, fruit salads, and impart a very nice, nutty flavour and are safe to eat; edible oil is also obtained from them. The oil is said to be an excellent substitute for olive oil, and can be used in salad dressings or for cooking. The leaves are also edible raw or cooked, and can be used like spinach or as a flavouring in soups and salads. A flower syrup can be prepared from the petals and used in soups and gruels. In the past, it was also used as a substitute for tea. A red dye from the petals is used as a food and drink flavouring, especially in wine.
- **Caution**: It is a genus in which some species may contain alkaloids, e.g. morphine, codeine, and rhoeadine. It causes toxicosis in horses, as well as agitation, neighing, ataxia, intense prostration, severe constipation and death by respiratory depression. Its odour is said to cause headaches and headwork. The plant's alkaloids should only be used under the supervision of a qualified herbalist. There are reported cases of allergic contact with urticaria from poppy flowers, so it is recommended to use gloves to harvest fresh flowers. When pure poppy flowers are used as a tea, even the maximum therapeutic dosage recommended for an adult human (1.6-5 g per day) causes no risk of toxicity, other than the rare possibility of allergic reactions. The fresh flowers are reported to cause poisoning (stomach pain and vomiting) in children. When taken in large doses, poppy flowers cause convulsions and coma in cattle, cramps in rats, and stimulate respiration in rabbits. The toxicological effect of the alcoholic and aqueous plant extract administered intraperitoneally in mice and the large dosages required to elicit toxicity indicated that the plant is safe when consumed in the recommended dosages for humans. The toxicological results obtained indicated that 2 g/kg is LD10 (the lethal dosage that causes death in 10% of animals tested) and 4 g/kg is LD50. The leaves should not be used after the flower buds have formed. Some caution is required.



Showing the capsules

In its natural habitat

The plant spread in the field

- **Arabic name**: Hashishat Al-Hetan
- **Scientific name**: *Parietaria diffusa* Mert. Et.
- **Common name**: Pellitory-of-the-Wall, Lichwort
- **Family name**: Urticaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Aerial parts, and the whole plant except for the roots.
- **Chemical constituents**: Flavone pigments, potassium nitrate, sulfur, flavonoids, tannin and tannic acid, and bitter material.
- **Pharmacological action**: The plant is laxative, diuretic, tonic, demulcent and depurative (particularly the leaves). It is used externally for wounds and dermatitis. The plant is used for burns, metabolic illnesses such as the elimination of corporal liquids, digestion problems, obesity, diabetes, cellulitis, rheumatic illnesses, gout, arthritis, constipation or uric acid. It is a depurative and cholagogue, and is used for illnesses of the urinary tract, haemorrhoids, gallstones or kidney stones. It is also useful for treating nephritis and cystitis because the mucilage exercises a smoothing property on body tissues, as well as for illnesses of the circulatory system, water retention, the formation of edemas, bad circulation and high blood pressure. It is a very useful plant for the cure of bronchial affections and asthma.
  In folk medicine, exposure to the vapour of a plant decoction cures haemorrhoids.
- **Other uses**: A weed species.
- **Caution**: No reports.

- **Arabic name**: Rejl El-Hamamah, Shuwaishat Al-Rai
- **Scientific name**: *Paronychia argentea* Lam.
- **Common name**: Silvery Whitlow Wort, Mountain Knotgrass, Algerian Tea
- **Family name**: Caryophyllaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Flowers, leaves, stems, and the whole plant when fresh.
- **Chemical constituents**: The flavonoids isorhamnetin, quercetin and luteolin.
- **Pharmacological action**: The plant is hypoglycaemic. Its leaves are an aphrodisiac and diuretic, and are used for tuberculosis, cardiac diseases and ailments, diabetes, blindness and kidney stones. The plant is used for curing urinary system infections and diseases. It is an ancient treatment for whitlows.
- **Other uses**: The whole young plant can be eaten raw. It is regarded as a wild flower and a forage species.
- **Caution**: No reports.

- **Arabic name**: Rejl Hammama Ghazaweih
- **Scientific name**: *Paronychia siniaca* Fresen
- **Common name**: Whitlow Wort
- **Family name**: Caryophyllaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Flowers, leaves, stems, and the whole plant when fresh.
- **Chemical constituents**: The flavonoids isorhamnetin, quercetin and luteolin.
- **Pharmacological action**: An infusion of the leaves is an aphrodisiac and diuretic. It is also used in the treatment of TB, heart pains, diabetes, glaucoma and kidney stones. It is an ancient treatment for whitlows.
- **Other uses**: The whole young plant is edible raw. It is a wild flower and a forage species.
- **Caution**: No reports.

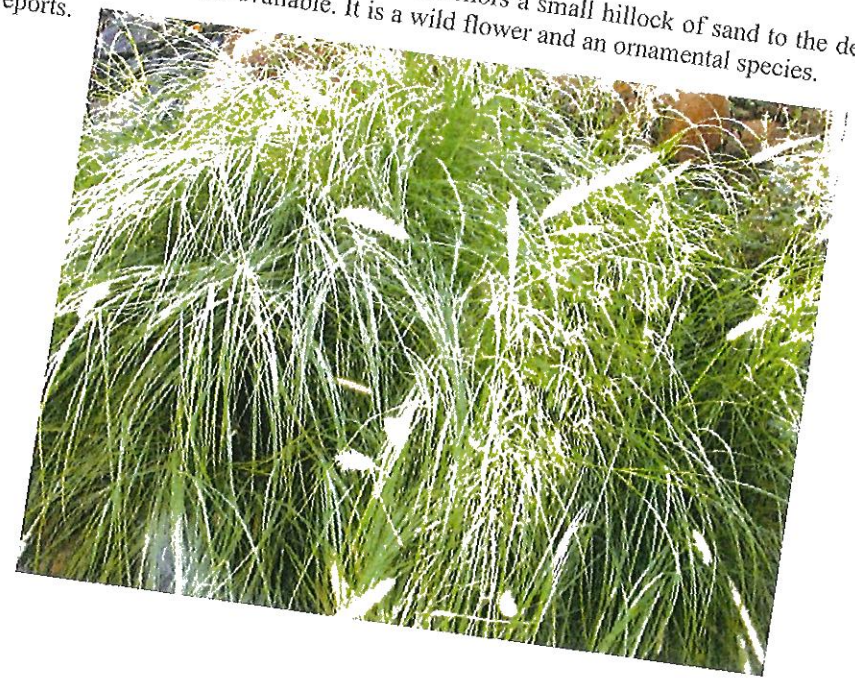
- **Arabic name**: Harmal
- **Scientific name**: *Peganum harmala* L.
- **Common name**: Wild Rue, Syrian Rue, African Rue, Harmal, Harmal Shrub
- **Family name**: Zygophyllaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Leaves, seeds, and roots.
- **Chemical constituents**: Harman alkaloids (4-6%) in seeds including β-carbolines such as harmine, harmaline (identical to harmidine), harmalol, harman and quinazoline derivatives, tetrahydroharmine, antineoplastic alkaloids, vasicine (peganine), vasicinone, harmol, dimeric quinazoline alkaloids, dipegine I (R = H), dipeginol I (R = OH) and a lipid complex. In the seeds, unsaturated fatty acids are the major constituents of the oil, where linoleic acid and oleic acid predominate, and minor amounts of saturated fatty acids such as palmitic and stearic acids are also present.
- **Pharmacological action**: The plant is abortifacient, diuretic, analgesic, antiseptic, stimulant, narcotic, hallucinant, anti-periodic, emmenagogue and anthelmintic. It is used for alopecia and hair care, colds, eczema, and rheumatism. Harmine and harmaline have spasmolytic, toxic and vasorelaxant effects. It is anti-tumour, neurotoxic, anticancer and anti-protozoa, and is used for lower backache, colic, dysmenorrhoea, jaundice, lumbago, malaria, worms, gastritis, and kidney stones, as well as for repelling mosquitoes. Peganine is anti-tussive. The plant is used as an antiphlogistic agent. *Peganum harmala* in large quantities can reduce spermatogenesis and male fertility in rats. Vasicine (peganine) has been effective against the *Leishmania donovani* protozoan parasite that can cause potentially fatal visceral leishmaniasis. *P. harmala* showed a life-saving effect on cattle infected with the protozoal East Coast Fever. The beta-carboline alkaloids have anti-tumour, antioxidant and antimutagenic properties. *P. harmala* as well as harmine exhibit cytotoxicity with regards to HL60 and K562 leukaemia cell lines.
  Traditionally, ground seeds have occasionally been used to treat skin and subcutaneous cancers. Seed extracts also showed effectiveness against various tumour cell lines both *in vitro* and *in vivo*.
  In folk medicine, the plant is used to treat depression and harmaline is a central nervous system stimulant. The root kills lice, seeds are used for fevers and asthma, and their decoction is used as a mouth wash. Smoke from the seeds kills algae, bacteria, intestinal parasites and mould. It has antibacterial activity and the seeds also kill insects. It also inhibits the reproduction of the *Tribolium castaneum* beetle. A leaf decoction is given

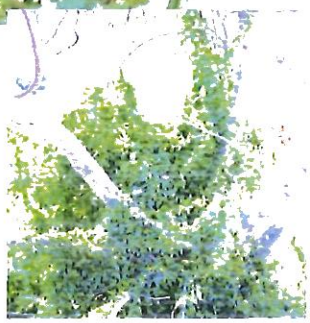
in cases of rheumatism, is a stimulant, narcotic and antiseptic, repels mosquitoes, and cures joint pain, eye conditions, headaches, spasmodic, neuralgia, chest catarrh, skin disease and (mainly) fungal infections. The plant is an excitant, galactagogue, aphrodisiac, and antimicrobial, and cures diarrhoea, dysentery, and meningitis. Its seeds are used for cardiac diseases, are hypoglycaemic and their powder is anti-eczema. The seeds are also used against fatigue, sciatica and Parkinson's disease. A plant decoction is used as a gargle for laryngitis. Leaves in the form of cigarettes are used for asthma, and the leaves and seeds are used for rheumatoid arthritis and seizures.

- **Other uses**: It is a source of natural dyes. A silk fabric dye can be obtained from the harmal leaves. It is a wild flower and a poisonous species.
- **Caution**: The plant is poisonous for animals. Harmaline is a poisonous alkaloid, which stimulates the central nervous system, increases the respiration rate, reduces blood pressure, is a muscle relaxant, and causes sensation, vomiting and diarrhoea. High doses of peganine cause photosensitization, vomiting and diarrhoea. The plant is widely spread in the desert and deteriorated rangelands in Jordan.

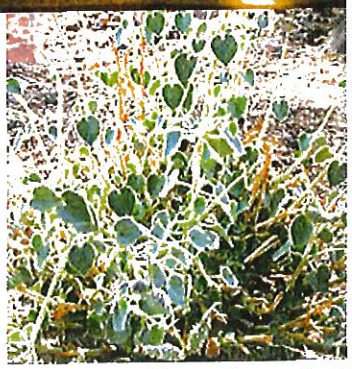
Plant population

- **Arabic name**: Sanam Tabaria
- **Scientific name**: *Pennisetum divisum* (Forssk. ex J. F. Gmel.) Henrard
- **Common name**: Fountain Grasses
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant.
- **Chemical constituents**: Crude protein (12.3%), a neutral detergent fibre (63.1%), an acid detergent fibre, legnin, cellulose and ash.
- **Pharmacological action**: The plant is used for gastrointestinal tract disorders.
- **Other uses**: *Pennistum divisum* is a sand binder that anchors a small hillock of sand to the desert floor. It is used as fodder if no other plants are available. It is a wild flower and an ornamental species.
- **Caution**: No reports.



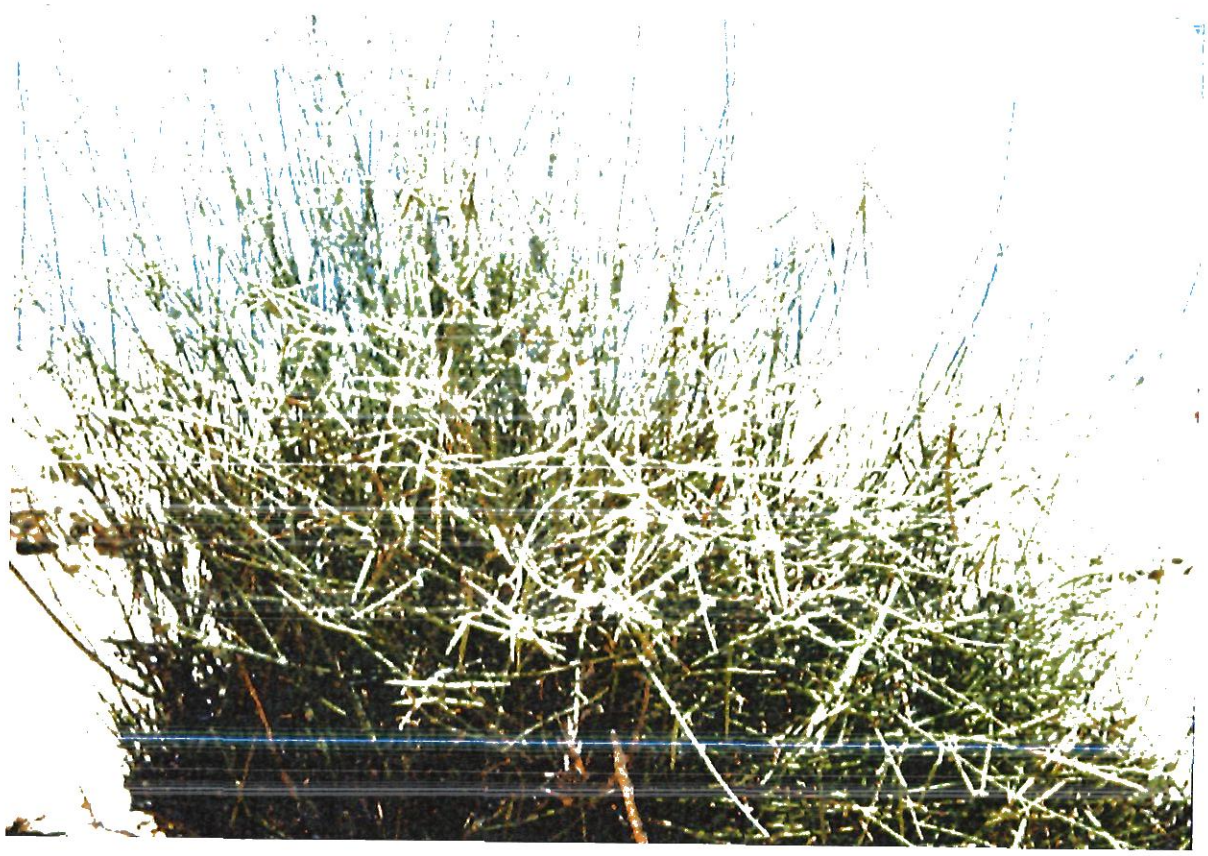


- **Arabic name**: Mudaide
- **Scientific name**: *Pentatropis spiralis* (Forssk.) Decne
- **Common name**: Pentatropis
- **Family name**: Asclepiadaceae
- **Growth habit**: Climber Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, stem, and root.
- **Chemical constituents**: Acyclic diterpene ester, cis-phytyl-l-palmatate, triterpene, squaline, n-taraxasterol and taraxasterol.
- **Pharmacological action**: The plant is emetic, astringent and used to treat gonorrhoea. The root powder is effective for local fever, dysentery and dyspepsia. The root itself is antigonorrhoeic and alterative.
- **Other uses**: It is a climbing wild flower.
- **Caution**: No reports.



The whole plant

- **Arabic name**: Shajarat al-Jeild, Ghalqa
- **Scientific name**: *Pergularia tomentosa* L.
- **Common name**: Pergularia
- **Family name**: Asclepiadaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Root, aerial parts, and leaves.
- **Chemical constituents**: Cardenolides with doubly binding sugar moieties.
- **Pharmacological action**: It is anthelmintic, expectorant, laxative, antiseptic, purgative and hypoglycaemic. It is used for dermatosis, eczema and skin diseases. It is also used in hemorrhoids, wounds and against cutaneous leishmaniasis.
- **Other uses**: A wild flower, and used in tanning.
- **Caution**: The plant sapor latex is toxic.



- **Arabic name**: Hindab, Swas, Attfa, Hallab
- **Scientific name**: *Periploca aphylla* Decne
- **Common name**: Silk Vine, Periploca
- **Family name**: *Asclepiadaceae*
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Stem bark and branches.
- **Chemical constituents**: Cardiac glycosides (periplocine, periplocimarine).
- **Pharmacological action**: The plant is used for cardiac diseases, dermatitis, tumours and swellings. It is also used for burns and rheumatism. It is anodyne, abortifacient, and has cardiotonic properties.
- ***Other uses***: A wild flower.
- **Caution**: No reports.

- **Arabic name**: Qadha
- **Scientific name**: *Phagnalon rupestre* (L.) DC.
- **Common name**: African Fleabane, Fleabane
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Flowers and the whole plant.
- **Chemical constituents**: Phenolic glycosides including lignan 7,7'-bis-(4-hydroxy-3,5-dimethoxyphenyl)-8,8'-dihydroxymethyl-tetrahydrofuran-4-O-beta-glucopyranoside, the nylhydroquinone glycoside 1-O-beta-glucopyranosyl-1,4-dihydroxy-2-(3'-hydroxy-3'-methylbutyl) benzene and the acetophenone glycoside 12-O-beta-glucopyranosyl-9beta,12-dihydroxytremetone, flavonoids apigenin-7-O-beta-glucoside, luteolin-7-O-beta-glucoside, luteolin-7-O-beta-glucuronide and the acetophenone picein.
- **Pharmacological action**: It is used for back ailments, local cauterization, headaches, burns, asthma, as a sedative and as an analgesic for toothache. A part of the plant is boiled, filtered and taken internally each morning as a sedative, and its infusion is useful for alleviating kidney ailments.
- **Other uses**: A wild flower.
- **Caution**: No reports.

Flowering plant

Fruiting stage

- **Arabic name**: Hashishat Canary, Sheir Al-Far
- **Scientific name**: *Phalaris minor* Retz.
- **Common name**: Little Seed Canarygrass, Small Canary Grass
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Seeds and the whole plant.
- **Chemical constituents**: Alkaloids, protein, and carbohydrates.
- **Pharmacological action**: It is hallucinogenic, aromatic, and anthelmintic, and improves immunity in animals. The leaves, seeds and fruits are all laxatives, anti-tussive and anti-dysenteric. They are used for colds and asthma.
- **Other uses**: The plant's seeds are cooked or ground for bread, cakes and other products. It is also used as animal and bird feed.
- **Caution**: The plant may be toxic to lactating animals.

- **Arabic name**: Rkab Al-Gamal, Musais
- **Scientific name**: *Phlomis kurdica* Rech. fil
- **Common name**: Phlomis
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Flowering shoots.
- **Chemical constituents**: Phenolic compounds including flavonoids, phenylpropanoids, phenolic acid glycosides, luteolin 7-O-β-d-glucopyranoside, jaceoside, luteolin 7-O-sophoroside, jaceosidin 7-*O*-β-D-glucopyranosyl-(1→2)-β-D-glucopyranoside, hispidulin 7-*O*-β-D-glucopyranosyl-(1→2)-β-D-glucopyranoside, one new phenylpropanoid, and 3,3′-dimethyl-lunariifolioside in the aerial parts; 41 compounds were also identified representing 92.9% of the oil. Germacrene D was also found at a high percentage (36.5%), and β-farnesene (14.5%), β-pinene (10.5%) and bicyclogermacrene (7.2%) are also important to the oil profile. Among the phenylethanoids are forsythoside B, verbascoside, alyssonoside, and leucosceptosides A and B. Iridoids, flavonoids, phenylpropanoids, phenylethanoids, lignans, neolignans, diterpenoids, alkaloids, and essential oils are typical metabolites of the *Phlomis* genus.
- **Pharmacological action**: It is a pain reliever, tonic, wound healer and stimulant. The flowered parts are generally used as a herbal tea to treat gastrointestinal disorders and to protect the liver, kidneys, bones and the cardiovascular system. Luteolin 7-O-β-d-glucopyranoside, jaceoside, and luteolin 7-O-sophoroside have shown inhibitory activity on lactate dehydrogenase in humans, which is known as an essential enzyme for the survival and progression of cancer cells. It also has inhibitory activity on LDH. The methyl extract of the plant can be considered as cytotoxic in melanoma skin cancers and it exerts an inhibitory effect on the melanogenesis process. Its oils showed moderate antifungal activity.
- **Other uses**: A wild flower.
- **Caution**: No reports.

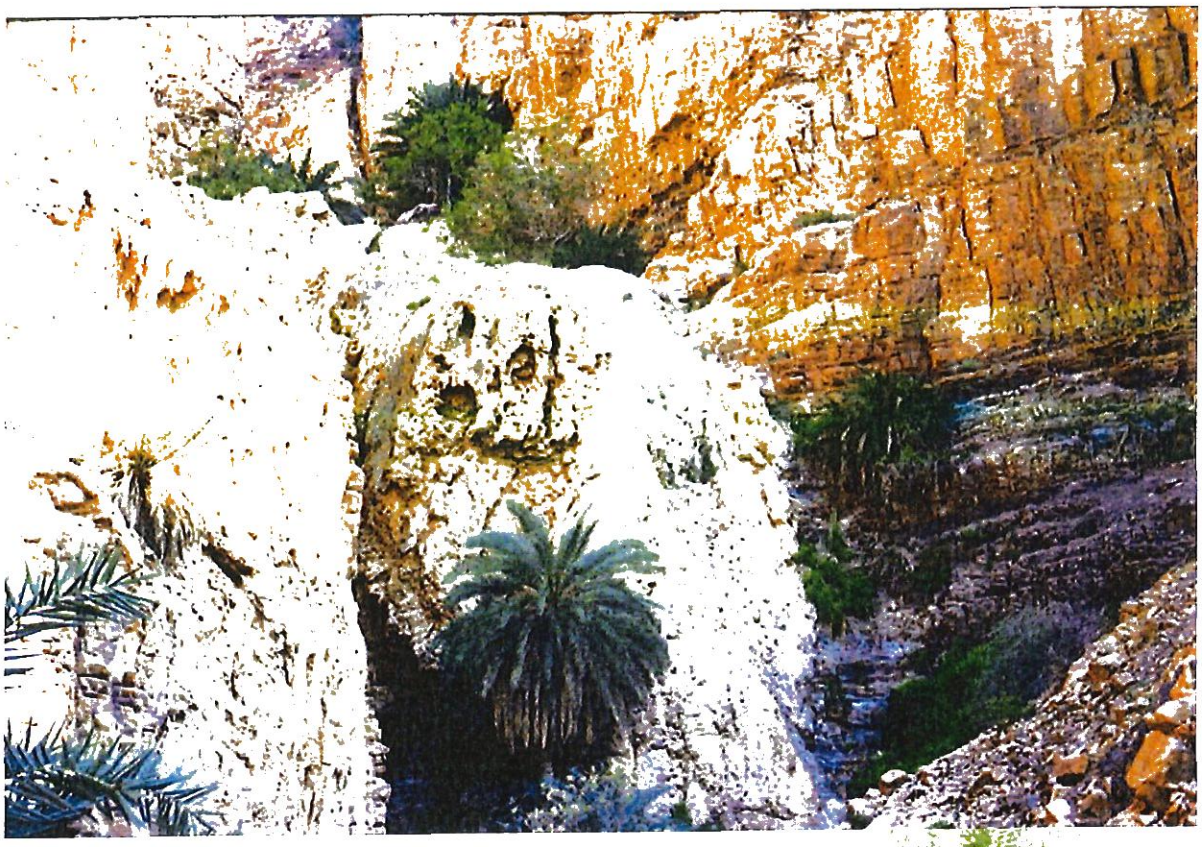
- **Arabic name**: Athni Banafsajia
- **Scientific name**: *Phlomis pungens* Willd
- **Common name**: Pungent Phlomis
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves
- **Chemical constituents**: 1,1-diphenyl-2-picrylhydrazyl (DPPH), 2,2-Azino-bis (3-ethylbenzothiazloine-6-sulfonic acid) (ABTS), superoxide anion, and nitric oxide radicals, butyrylcholinesterase (BuChE), tyrosinase, α-amylase, and α-glycosidase. Monoterpenes, sesquiterpenes, diterpene, aliphatic acids, essential oil and phenylethanoid glycoside. The oil's major constituents are germacrene D (24.5%), bicyclogermacrene (14.1%), α-pinene (13.5%) and (E)-β-farnesene (13.4%).
- **Pharmacological action**: The plant possesses antibacterial, anti-tumour, antioxidant and anti-inflammatory properties. It has inhibitory activities against acetylcholinesterase.
- **Other uses**: A wild flower.
- **Caution**: No reports.

- **Arabic name**: Mairamiat Al-Quds
- **Scientific name**: *Phlomis russeliana* (Sims) Lag. ex Benth
- **Common name**: Sticky Jerusalem Sage
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Flowers and aerial parts.
- **Chemical constituents**: 1,1-diphenyl-2-picrylhydrazyl (DPPH), 2,2-Azino-bis (3-ethylbenzothiazloine-6-sulfonic acid) (ABTS), superoxide anion, nitric oxide radicals, butyrylcholinesterase (BuChE), tyrosinase, α-amylase, α-glycosidase, flavonoids, terpenoids, and phenolic compounds.
- **Pharmacological action**: The plant has antioxidative and scavenging activities, as well as inhibitory activities against acetylcholinesterase. In addition, it has anti-microbial and anti-diabetic benefits.
- **Other uses**: It is an ornamental and wild flower, and attracts bees and butterflies. The leaves can be fried in butter or oil and used as a garnish on meat, vegetable or egg dishes. Jerusalem sage is chopped and added to pasta or risotto dishes.
- **Caution**: No reports.

- **Arabic name**: Athana Safra'i
- **Scientific name**: *Phlomis syriaca* Boiss
- **Common name**: Syria Phlomis
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Aerial parts.
- **Chemical constituents**: An iridoid glucoside, lamiide, 4-phenylethanoid, glycosides, acteoside, -OH acteoside, leucosceptoside A, S amioside, a caffeic acid ester, chlorogenic acid, 2 flavone glucosides, leuteolin-7-o-glucopyranoside, chrysoeriol-7-o-glucopyranoside, flavanone aglycone and naringenin.
- **Pharmacological action**: The plant shows antioxidant activity.
- **Other uses**: A wild flower.
- **Caution**: No reports.

- **Arabic name**: Shafya Salba, Laheeb, Rkab Al-Khail, Mussas
- **Scientific name**: *Phlomis viscosa* Poiret
- **Common name**: Jerusalem Sage, Lampwick Plant
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Sub-Shrub
- **Life cycle**: Perennial
- **Part/s used**: Leaves, aerial parts, and aromatic oil.
- **Chemical constituents**: Essential oils, and pimaradiene diterpene from the essential oil.
- **Pharmacological action**: The plant has antifungal properties. The diterpene has been shown to be the active principle against *Candida albicans* and *Candida tropicalis*. The essential oils and their individual compounds may be a potential resource and ingredient for pharmaceuticals or cosmetics with antimicrobial activity. The aerial parts' decoction cures coughs.
- **Other uses**: A wild flower.
- **Caution**: No reports.

Different *Phlomis* species

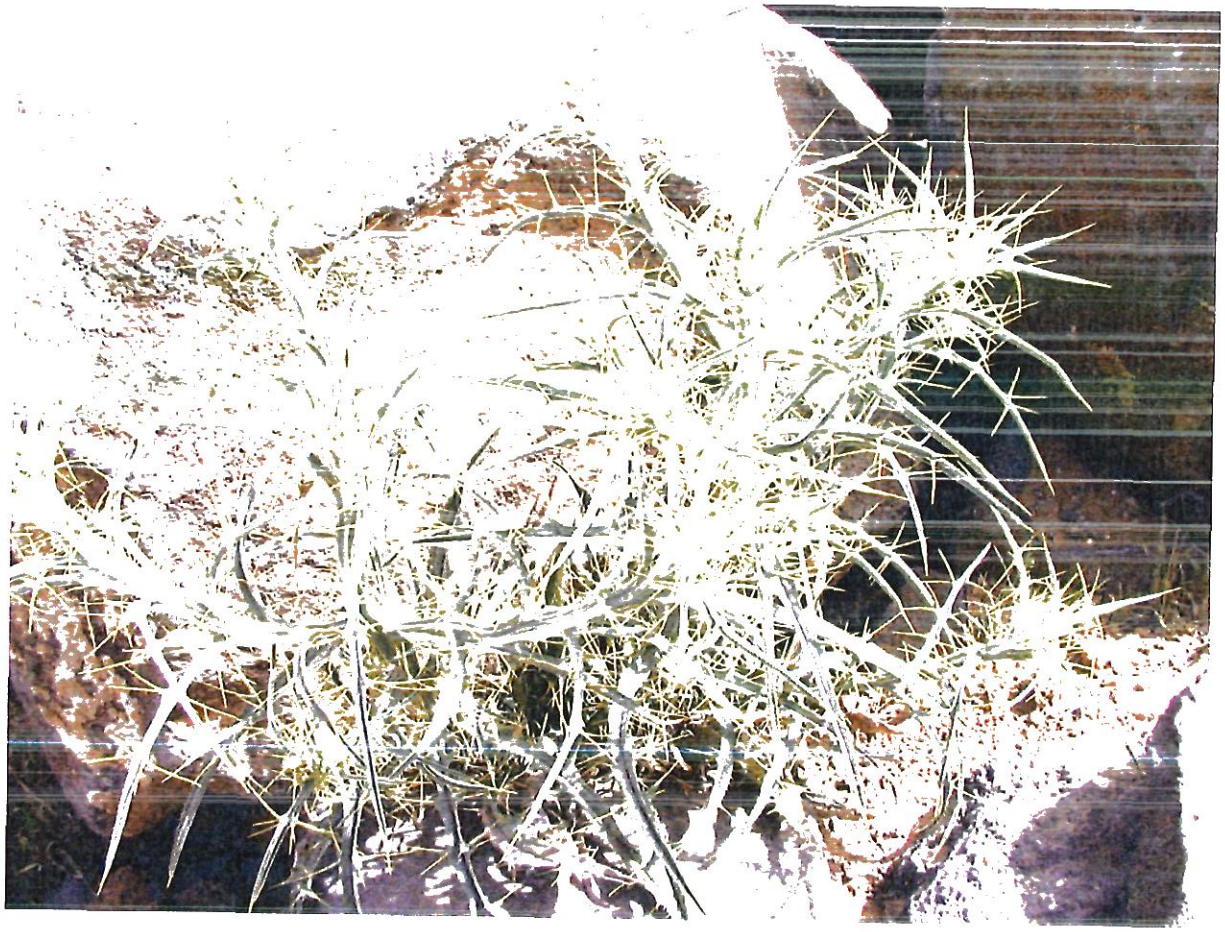


Fruiting plant

- **Arabic name**: Nakhil Barri, Balah, Tammir
- **Scientific name**: *Phoenix dactylifera* L.
- **Common name**: Date Palm, Wild Date Palm
- **Family name**: Arecaceae / Palmae
- **Growth habit**: Tree
- **Life cycle**: Perennial
- **Part/s used**: Fruits
- **Chemical constituents**: Carbohydrates, fibres, pectin, cellulose, lignin, proteins, amino acids, lipids, organic acids, vitamins A, B_1, B_2, B_6 and D, sugars (glucose, fructose, sucrose), ash, riboflavin, folic acid, butin, niacin, ascorbic acid, mineral elements, invertase and cellulose enzymes.
- **Pharmacological action**: The plant is an aphrodisiac and a sedative. It is a tonic for uterine muscles and regulates their contraction. It is used for coughs, phlegm, bronchitis, bruises and headaches. It protects teeth and is used in their care. The plant is a cure for colds and anaemia, is useful for whooping cough, is a nerve tonic, and helps in brain cells' construction.
- **Other uses**: Its fruits are edible. The plant is an ornamental tree and is regarded as a wild flower.
- **Caution**: No reports.

- **Arabic name**: Quseib
- **Scientific name**: *Phragmites communis* Trinius
- **Common name**: Reed
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Sub-Tree
- **Life cycle**: Perennial
- **Part/s used**: Leaves, root, sprouts, rhizomes, and flowers.
- **Chemical constituents**: Mineral elements, sucrose, free amino acids, fatty acids, sterols, tocopherols, and polyphenols.
- **Pharmacological action**: The roots and leaves are diaphoretic, diuretic, emetic and stomachic. The roots and sprouts are refrigerants. The rhizome is used for cancer.
  In folk medicine, the plant is used for indurated breasts, breast cancer and leukaemia. In addition, it cures abscesses, arthritis, bronchitis, coughs, cholera, gout, fever, hiccups and rheumatism. The ash of the leaves is used for foul sores, and a flower decoction is used for cholera, food poisoning and, when mixed with gypsum, halitosis and toothache.
- **Other uses**: The stems are used in the construction of cottages and small homes, and for manufacturing chairs, baskets, seats, and certain traditional music tools. Young shoots may be eaten raw or cooked. Unfolded leaves are used as a potherb. Grounded dry young leaves, mixed with cereal flour, are used in making dumplings, the hardy stems are used as firewood and roofing ribs, and the culms are used for pen handles. The plant makes first-class paper, but is difficult to bleach. It is an industrial species. It has antialgal activity. The antialgal ethyl 2-methyl acetoacetate showed strong growth inhibitory activity for *Chlorella pyrenoidosa* and *Microcystis aeruginosa*.
- **Caution**: No reports.

- **Arabic name**: Mesbah Seni, Fizalis, Kang
- **Scientific name**: *Physalis acutifolia* (Miers) Sandw.
- **Common name**: Sharpleaf Groundcherry
- **Family name**: Solanaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves and fruits.
- **Chemical constituents**: Bitter materials, physalin, alkaloids, organic pigments, and vitamins C and E.
- **Pharmacological action**: The plant is used for pharyngitis symptoms, urinary system disorders, kidney and bladder stones, gout and rheumatism. A fruit infusion is diuretic and emollient, and the plant decoction when used in the form of a poultice is anti-inflammatory and sedative.
- **Other uses**: The fruits are eaten in small quantities or used in jam. They contain the bitter compound visalin, which may cause severe diarrhoea. It is an ornamental plant, commonly found in gardens.
- **Caution**: It is poisonous because of its alkaloid content.

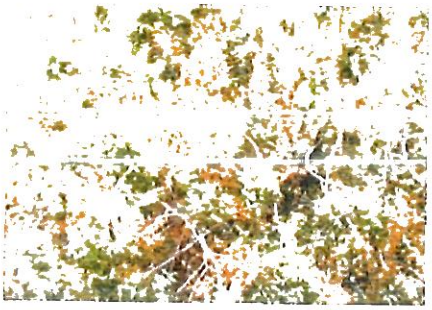


- **Arabic name**: Qaiswan Al-Gamal
- **Scientific name**: *Picnomon acarna* (L.) Cass.
- **Common name**: Yellow Cnicus
- **Family name**: Compositae / Asteraceae
- ***Growth habit***: Herb
- **Life cycle**: Annual
- **Part/s used**: Aerial parts.
- **Chemical constituents**: Alkaloids, phenols, flavonoids among which are luteolin-7, 3′-dimethyl ether, *luteolin-3′-methyl* ether, gossypetin-8, 3′, 4′-trimethyl ether (3,5-dihydroxytrimethoxyflavone), and monorhamnosides, mainly scutellarein 6-methyl ether (Hispidulin) 7-rhamnoside, scutellarein 5,4*-dimethyl ether and 7-glucoside.
- **Pharmacological action**: It is a stimulant, tonic and antiseptic. A plant decoction is used for gastric pain, rheumatism and as an anti-convulsive.
- **Other uses**: The plant is grazed in the early stages of growth and its hard branches are used in stoves. It is a wild flower plant.
- **Caution**: No reports.

- **Arabic name**: Bottum Atlasi, Botom
- **Scientific name**: *Pistacia atlantica* Desf.
- **Common name**: Mt. Atlas Mastic Tree, Betoum, The Persian Turpentine Tree, Pistacia
- **Family name**: Anacardiaceae
- **Growth habit**: Tree
- **Life cycle**: Perennial
- **Part/s used**: The leaves, fruits, seeds, gum, and internal cortex.
- **Chemical constituents**: Phenolic compounds, essential oil (22%), V/W (the highest among all *Pistacia* species), fatty oil (60%) and tannins in fruits; terpenoids, □-pinene, □-pinene, 3-carene, carveol, epoxypinene, limonene and limonene oxide, myrtenol, citral, □-phellandrene, and □-myrcene are also present. In addition to tannin, resins including mastic, terpentine oils, gums, Mesaconic acid and phenolic compounds are all present.
- **Pharmacological action**: The plant is a sedative, antioxidant, antiseptic and aphrodisiac. It is used for gastric ailments, colic, diarrhoea, dyspepsia, gingivitis, mouth care, stomach ache, and toothache. Chewing gum has traditionally been used in the treatment of peptic ulcers, strangury, stomach ulcer and halitosis, and it increases saliva secretion because of the bitter substance. The leaves are used for bacterial stomach infections accompanied by severe diarrhoea. A leaf infusion is useful for kidney disorders, and the gum is used in folk medicine.
- **Other uses**: Fresh young leaves are eaten raw or in a salad mixed with yoghurt. The plant is used in drug coatings, chewing material, teeth fillings, pigments and in the varnish industry. Its fruits are edible, and the tannin is used in tanning.
- **Caution**: No reports.

- **Arabic name**: Botom, Botom Al-Ilki, Mistakka, Mistuky, Elesfar
- **Scientific name**: *Pistacia lentiscus* L.
- **Common name**: Lentisk, Mastic Tree
- **Family name**: Anacardiaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: All parts of the shrub can be exploited: bark, gum, and leaf.
- **Chemical constituents**: The resinous mastic gum is constituted of the terpenes alpha-pinene, beta-myrcene, beta-pinene, limonene, and beta-caryophyllene of the essential oil fraction, which is about 2% of the mastic gum; there are also a few trace elements: verbenone, alpha-terpineol and linalool.
- **Pharmacological action**: It is a protective and drug-coating material. The plant is antimicrobial, digestive, astringent, diuretic, antiphlogistic, antispasmodic and stimulant. It is used for diabetes, gingivitis, mouth care, stomach aches, appetite, dermatitis, fever, halitosis, chest pains, cholesterol, eczema, paralysis, diarrhoea, renal problems and gallstones. Mastic gum treats other inflammatory diseases; it is antimicrobial, and an effective inhibitor of several types of bacteria including *Helicobacter pylori*, which causes chronic active gastritis. It is an antioxidant, possesses a cholesterol-reducing property, and displays multiple anti-cancer effects. It can also play a cardio-protective role.
  Mastic is a laxative, mouth perfumer and an aphrodisiac. The resin and oil were historically used for many medical purposes.
  A leaves and fruits infusion is astringent and diuretic, and the resin is a tissue restorative. The fruits expel phlegm and saliva, are useful for edema and haemorrhoids, and also enhance sexuality, cure jaundice and strangury, alleviate tiredness, sciatica, and joints pain, and improve the voice.
  In folk medicine, mastic oil helps reduce gum cavities and toothache, and keeps the stomach healthy by giving protection against worms and bacteria. The aromatic odour opens respiratory tracts, dissolves phlegm, and calms coughs and voice tubes. In addition, it is used for chest diseases including asthma, to alleviate toothache and rheumatism, and to enhance the memory. It is a remedy for halitosis, and is used for stomach complaints and external injuries.
- **Other uses**: The plant extract shows insect repellent effects, the leaves are used in tanning, an edible oil is extracted from the fruit seeds, and smoke from the *Pistacia lentiscus* boughs adds a distinctive flavour to meats. Mastic gum has various uses: it gives a balsamic taste to roasted bread, foodstuffs, sweets, aromatic food and analeptic drinks, liqueur and cordials, it is employed by dentists to fill tooth cavities, and it can be dissolved to form varnish. Tannins are used in tanning.

❖ **Caution:** No reports.



Fruiting plant

- **Arabic name**: Bottum Falasteini, Series, Botom
- **Scientific name**: *Pistacia palaestina* Boiss
- **Common name**: Terebinth Tree
- **Family name**: Anacardiaceae
- **Growth habit**: Tree
- **Life cycle**: Perennial
- **Part/s used**: Leaves, fruits, and vegetative parts.
- **Chemical constituents**: Aromatic volatile oil, resin and turpentine. The oil is rich in monoterpenes, and the plant contains alpha-pinene (63.1%) and myrcene (13.3%) in the leaves and alpha-pinene (49.4%), sabinene (22.8%), and limonene (8.1%) in the galls. (E)-Ocimene (33.8-41.3%), sabinene (20.3-24.1%), and (Z)-ocimene (3.8-13.0%) are the main components in the fruits. Sesquiterpenes have also been detected in small quantities in the leaves and fruits and in trace amounts in galls.
- **Pharmacological action**: The fruits are edible. The plant is sedative, antiseptic, antioxidant and stomachic. It is used for gingivitis, toothache, mouth care, strangury, stomach ulcers and halitosis.
- **Other uses**: Fresh young leaves are eaten raw or in a salad mixed with yoghurt. The ripe fruits are used in Zaatar and in a mix of aromatic and food plants. It is a forestry plant.
- **Caution**: No reports.

- **Arabic name**: Bazella Barri
- **Scientific name**: *Pisum syriacum* (A. Berger) Lehman
- **Common name**: Syrian Pea, Wild Pea
- ***Family name***: *Leguminosae / Fabaceae*
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Fruits and seeds.
- **Chemical constituents**: Trigonelline, choline, and pectins.
- **Pharmacological action**: The plant is used for diabetes and meningitis.
- **Other uses**: A wild flower.
- **Caution**: It causes muscular incoordination. Toxicity symptoms in animals include weakness, faltering, rambling, an inability to get up from the ground, appearing tense or excited, continuing to run, walking backwards and meagreness.

- **Arabic name**: Rebl, Reblah, Lesan Al-Hamal, Wdaineh, Uthainah
- **Scientific name**: *Plantago coronopus* L.
- **Common name**: Buck's-Horn Plantain, Minutina, Erba Stella
- **Family name**: Plantaginaceae
- **Growth habit**: Herb
- **Life cycle**: Annual or Perennial
- **Part/s used**: The whole flowering plant, seeds, husks, and roots.
- **Chemical constituents**: Seeds.
- **Pharmacological action**: It is a laxative, and is used for constipation and wounds. Plantain seeds contain up to 30% mucilage that swells up in the gut, acting as a bulk laxative and soothing irritated membranes. Sometimes the seed husks are used without the seeds. They also treat gallstones.
- **Other uses**: A wild flower.
- **Caution**: No reports.

- **Arabic name**: Lesan Al-Hamal Al-Kabeer, Lesan Al-Hamal Al-Sinani, Othionowat Al-Jeddy, Aqttona, Lesan Al-Jeddy, Athan Al-Jeddy
- **Scientific name**: *Plantago lanceolata* L.
- **Common name**: Small Plantain, Ribwort Plantain, English Plantain, Buckhorn Plantain, Narrowleaf Plantain
- **Family name**: Plantaginaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, seeds, roots, and the whole flowering plant with roots.
- **Chemical constituents**: Leaves contain tannins, mucilage, silicic acid, flavonoids (apigenin), iridoid glycosides (aucubin), palmitic acid, oleic acid, vitamins C and K, beta carotene, catalpol, polysaccharides, enzymes, saponins, citric and oxalic acids and sedative materials. In addition, it includes potassium salt, sugars, mineral elements, and hormones. Seeds contain organic acids, fatty oil, salts, sugars, tannin, aromatic oil, saponins, vitamins C, E and K, sulfur, starch, flavonoids (apigenin), mucilage, silicic, palmitic, citric, oleic and formic acids, beta carotene, pectin, catalpol, polysaccharides and glycosides.
- **Pharmacological action**: The plant is antiphlogistic, cytotoxic to cancer cells (the flavonoids are able to strongly inhibit the proliferation of human cancer cell lines), an antidote, astringent, demulcent, expectorant, laxative, antibacterial, ophthalmic, anti-bleeding and haemostatic. It is used for diarrhoea, gastritis, peptic ulcers, irritable bowel syndrome, haemorrhoids, cystitis, bronchitis, catarrh, sinusitis, asthma and hay fever. In addition, it is used for dermatitis, malignant ulcers, cuts, stings, wounds and swellings. The roots are stomachic, anti-allergic, anti-diabetes, overcome headaches and abscesses, are used for the cessation of child suckling and in hair treatment, and are a remedy for rattlesnake bites. The seeds are used in the treatment of parasitic worms, and for soothing irritated membranes. Distilled water made from the plant makes an excellent eye lotion and repairs damaged tissues. It is used locally as a bone healer. The plant controls intestinal movements, and is emollient and vulnerary. Its infusion is used for coughs, whooping cough, hoarseness, and other respiratory disorders. Crushed fresh leaves can be applied externally to bruises. Internally, leaf eye drops pacify tired eyes and the leaves' decoction is used as a drink for dyspepsia. Externally, the leaves are used as a bandage for ulcers and are a good contractor for tumours and burns. They are also used for elephant disease. Macerated leaves are used for varicose veins and are placed in shoes to alleviate tiredness, pain and foot burns. The plant is used for eczema, gingivitis and anorexia.

The plantain is styptic and a febrifuge, removes congestion, and is a blood detoxicant and diuretic. It also helps with body water retention and cures toothache, legerities and boils.
It is an antiseptic, and is used for skin diseases, colds, pharyngitis, laryngitis, stomach convulsions, enuresis, and liver disorders. The leaves are a sedative for excited urine tracts, and cure chest diseases, mainly tuberculosis. The plant is useful for bedwetting, and its leaves are used to give up smoking. The plant is rich in fibres and thus helpful for constipation. It is very useful for neural colon disease, for controlling blood cholesterol levels, and for helping with weight loss and obesity control. A fresh leaf extract protects against blood clots after surgery and against ophthalmia. Chewing the plant's leaves alleviates toothache and infections. The leaves are used for malaria, dysentery and cardiac diseases. Crushed leaves are used on sores and injuries, and the syrup is used for respiratory ailments.

- **Other uses**: It is an edible species in salads. The leaves are edible fresh or cooked. The plant is a wild flower.
- **Caution**: No reports.

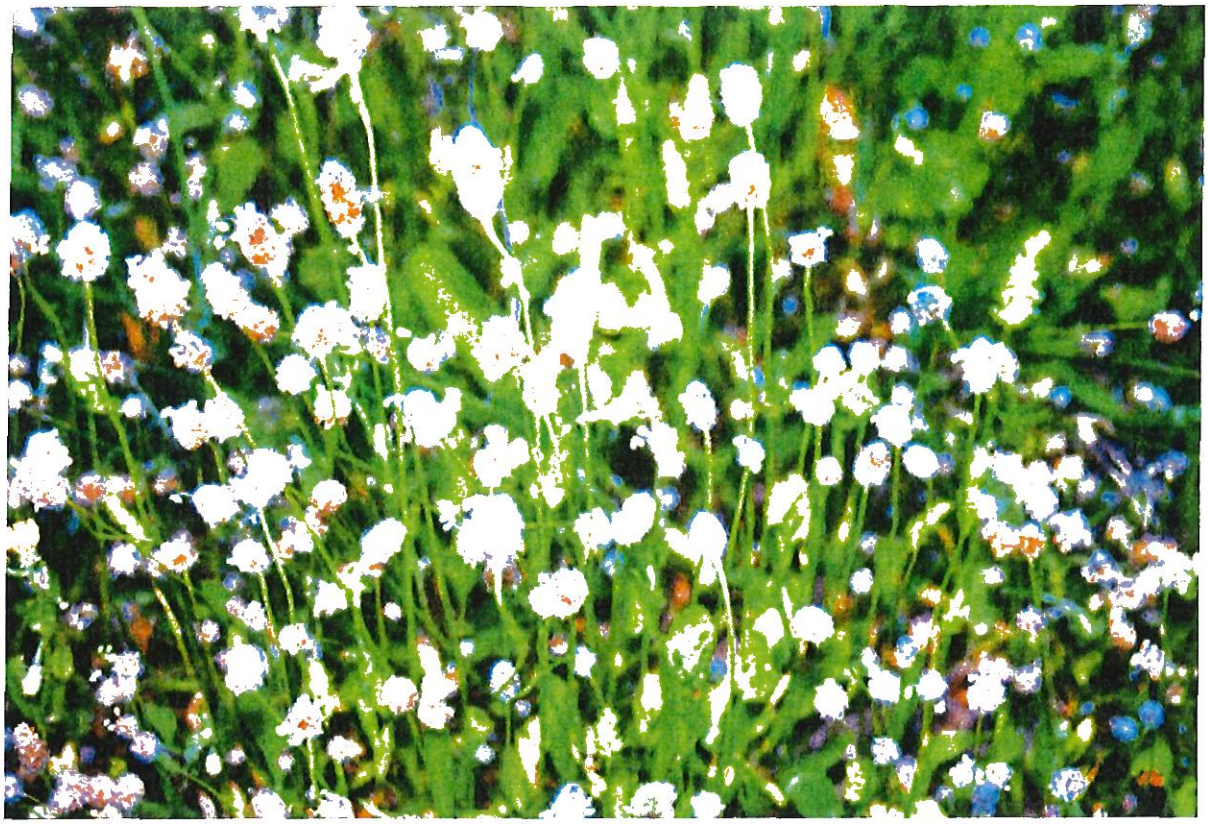
The flowering plant

- **Arabic name**: Lesan Al-Hamal Al-Sinani, Lesan Al-Hamal Al-Kabeir, Othianowat Al-Jeddy, Aqttonah, Waraq Sapoon, Lisan Al-Kalb
- **Scientific name**: *Plantago major* L.
- **Common name**: Greater Plantain, Common Plantain, Waybread, Ribwort Plantain, Ribgrass, Soldiers, Cocks-and-hens, Lamb's Tongue, Hard-Heads, Fighting Cocks, Devil's Head, Water Plantain, Greater Thrumwort, Healing Plant.
- **Family name**: Plantaginaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves and seeds.
- **Chemical constituents**: Tannins (apigenin), erucic acid, polyamines, bitter materials, phenolic glycoside isolated from seeds, flavonoids (apigenin), mucilage, bitter materials, glycosides (eucobin), silicic acid, ursolic acid, oleic acid, vitamins C, E and K, beta-carotene, saponins, polyamine, flavone glycosides, monoterpenoids, triterpenoids, iridoid glycosides, phenolic compounds, polysaccharides, and fatty acid.
- **Pharmacological action**: The plant is diuretic and anti-haemorrhagic, the flavonoids have antioxidant potency and cytotoxic activity, and its extract is included in a composition for aiding with giving up smoking, inflammations and cancer. It is an antidote and antiviral. It treats various diseases varying from colds to viral hepatitis, removes congestion and toxins, alleviates temperature and is useful for skin diseases. The gum is a digestive system and kidney sedative, hence it protects mucus tissues. It is a successful drug for asthma and colic. It removes flatulence and reduces acute bleeding. The plant is also active against constipation, haemorrhoids, abscesses, anti-tussive, bronchitis, diarrhoea, dysentery, hypertension, kidney stones, toothache, hoarseness and wounds. A plant extract is used as an anti-fibrotic drug and an agent for treating fibrosis, and the extracts are genotoxic (recombinogenic).

In folk medicine, the plant is used for shin splints, stomach bleeding, excessive menstruation, bloody vomit, colon bleeding, cancers, infectious diseases, and sores. It is taken internally for tuberculosis, fevers, haemorrhages, bedwetting in children, vernal ague, swollen foot with dropsy, and hydrophobia. The plant is a cure for inflammations of ear congestion and tinnitus. It is antibacterial and effective in different types of inflammation (tonsillitis, enteritis, pharyngitis, laryngitis, bronchitis, cystitis, gastroenteritis and prostate inflammation), aromatic, astringent, bitter, nutritive, antiseptic and expectorant. The mucilaginous seed coating lubricates and cleanses the intestines, and acts as a mild laxative. It is emollient, demulcent, vulnerary and astringent. A plant infusion is used for coughs, whooping cough, hoarseness and other respiratory disorders. Crushed fresh leaves can be applied externally to swelling and bruises. It is a tonic and used for febrifuge, fever and ulcers. It heals stings and cuts.

- **Other uses**: The expressed oil of the seeds (a favourite food of birds) is used in place of linseed oil; the root is sweet and has great culinary use as a starchy vegetable. The leaves can be eaten raw or cooked.
- **Caution**: No reports.

The plant at the vegetative growth stage



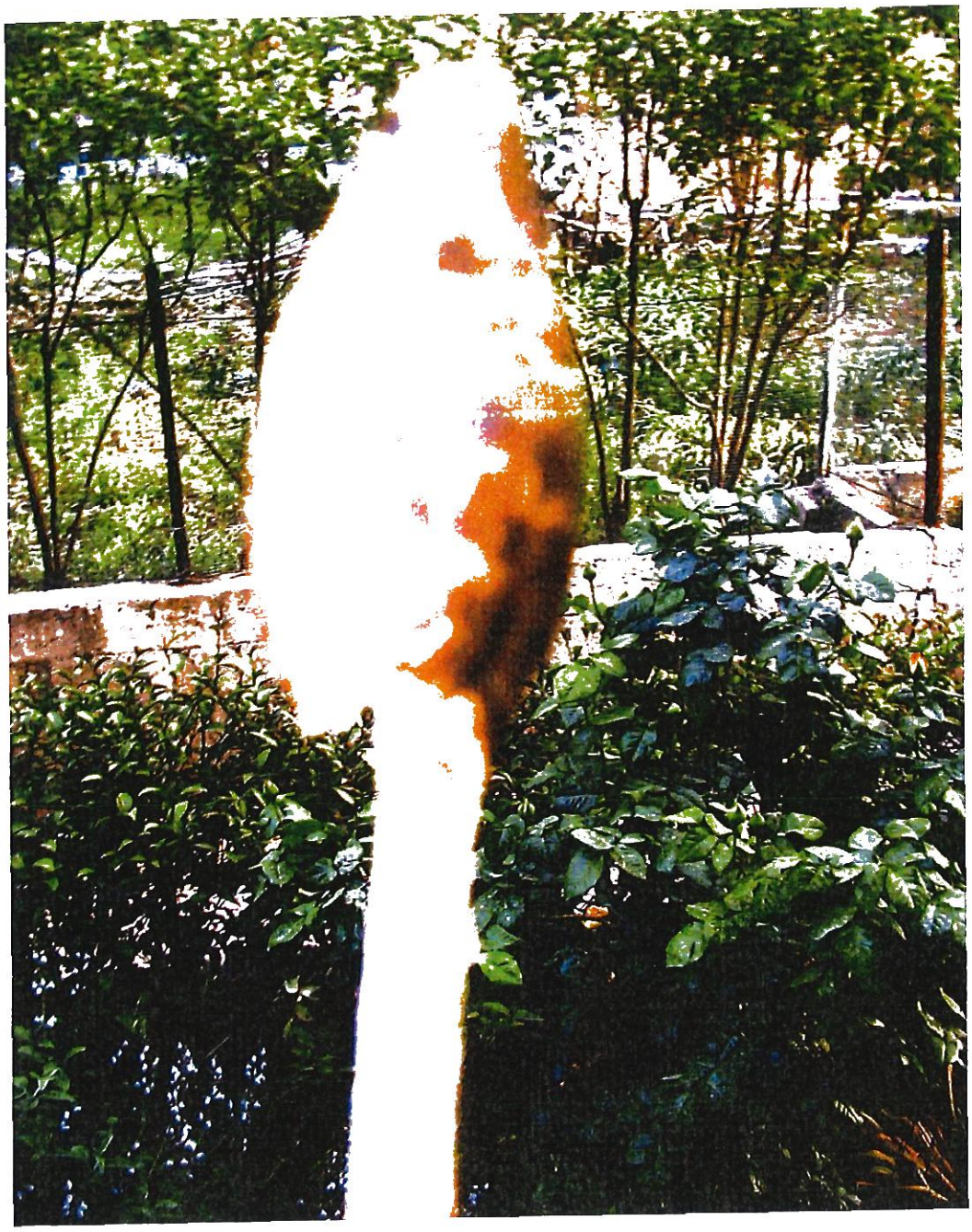
- **Arabic name**: Lesan Al-Hamal Al-Senani, Hashishat Al-Baraghith, Athan Al-Faras
- **Scientific name**: *Plantago ovata* Forssk.
- **Common name**: Plantain
- **Family name**: Plantaginaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, seeds and seed husk.
- **Chemical constituents**: There is a high protein content, as well as polysaccharides, phenolic compounds and, in the aerial parts, apigenin, genkwanin, luteolin (flavonoids), mussaenoside, aucubin (iridoids), verbascoside, poliumoside (phenylpropanoids), oleanolic acid (triterpene) and □-sitosterol glucoside (sterol). The seeds contain quercetin glycoside, mucilage, fibres, and quercetin glycosides, of which most important is arabinoxylan. The plant also contains fixed oil and starch.
- **Pharmacological action**: The plant is demulcent, laxative, antioxidant, expectorant, emollient, vulnerary and diuretic. It is used to treat diarrhoea, coughs, headaches, ulcers, venereal diseases and haemorrhoids, and is included in cosmetic or pharmaceutical preparations for the treatment of epithelial covering tissue. The polysaccharides promote the proliferation of human epithelial cells (skin keratinocytes and fibroblasts) and constrictions, are included in another composition for weight loss and obesity control, and are involved in the formation of seed husks and tablet binders of mucilage.
  The seeds are used for chronic constipation, dysentery, abdominal pain, piles and rheumatism. They lower cholesterol levels, act on affections of the kidney and bladder, and are astringent and cooling. A seed decoction is used for coughs and colds. The seeds also lower plasma lipids by altering hepatic and bile acid metabolism. They contain mucilage that swells in the intestines and thus soothes irritated membranes. Mucopolysaccharides are also involved in wound healing.
  In folk medicine, Bedouins use the seeds for adenopathy, as a cure for blennorrhoea, bronchitis, gonorrhoea, gout, rheumatism, and arthritis, as a hypocholesterolemic and hypoglycaemic, and for boils. An infusion is used for whooping cough, hoarseness, and other respiratory disorders. Crushed fresh leaves are externally applied to swellings and bruises.
- **Other uses**: A husk derived from the seeds has been successfully used as a gelling agent for microbial culture media.
- **Caution**: The plant should not be regularly applied for long periods.

Plant population

Other *Plantago* spp.

Plantago ciliata

- **Arabic name:** Saheeky, Barnoof, Pluchea
- **Scientific name**: *Pluchea dioscoridis* (L.) DC.
- **Common name**: Camphorweeds, Plucheas
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Leaves and their extract, and flowers.
- **Chemical constituents**: Quercetin, flavonoids, isorhamnetin, cuauhtemone, artemetin, herbacetin, various eudesmanes, phthalic acid, carvotagetone derivatives, sesquiterpenes, and volatile oil with farnesol and sesquiterpene alcohols. Oxygenated sesquiterpenes and sesquiterpene hydrocarbons are the main constituents. 7-Epi-eudesmanes, eudesmanoic acids, eudesmanolides and other sesquiterpenes are also present, together with sesquiterpene lactones, one new eudesmane derivative [2□-Hydroxyeudesma-4, 11(13)-dien-12,8□-olide 2-O-□-D-xylopyranoside], pluchecin, stigmasterol, □-sitosterol and □-sitosterol-□-O-D-glucoside, sulphated flavonoids and 4 nonsulphated flavonoids, the 3,7-disulphates of quercetin, isorhamnetin, and kaempferol, the 3-sulphate of isorhamnetin, and kaempferol 3-rutinoside, quercetin 3-rutinoside, quercetin-3-O-□-D-glucoside, and apigenin-6,8-di-C-glucoside, □-cyclocostunolide, isocostic acid derivatives and eudesmanolides.
- **Pharmacological action**: The plant cures rheumatic pains, boils, ear infections, skin sores and swellings. It is a laxative, analgesic, and antipyretic. Fresh leaves or their extract are used for epilepsy, colic, and as a carminative and remedy for colds. The aromatic leaves are used to perfume ladies' hair plaits. Their inhalation is useful for colds, brain membrane congestion, and nasal mucus, and it is a sedative, antipyretic, stomachic, anti-salivation and anti-colic.
  In folk medicine, the plant is used by traditional healers as an anti-rheumatic, and the leaves are used for colic and as carminatives. The plant was formerly used by women to give their hair an aromatic odour. A decoction of root bark and cooked fat, when drunk, was used against barrenness in women and impotence in men, and a root decoction is used to treat colds. A leaves decoction is used for children's ailments and rheumatism, and the roots and leaves are stimulants. *P. dioscoridis* showed marked mosquito larvicidal activity against *Culex pipiens* (LC50 71.86ppm).
- **Other uses**: It is a wild flower plant. Its leaves' powder is used as a spice for food flavouring and its aromatic oil is used in perfumes.
- **Caution**: No reports.



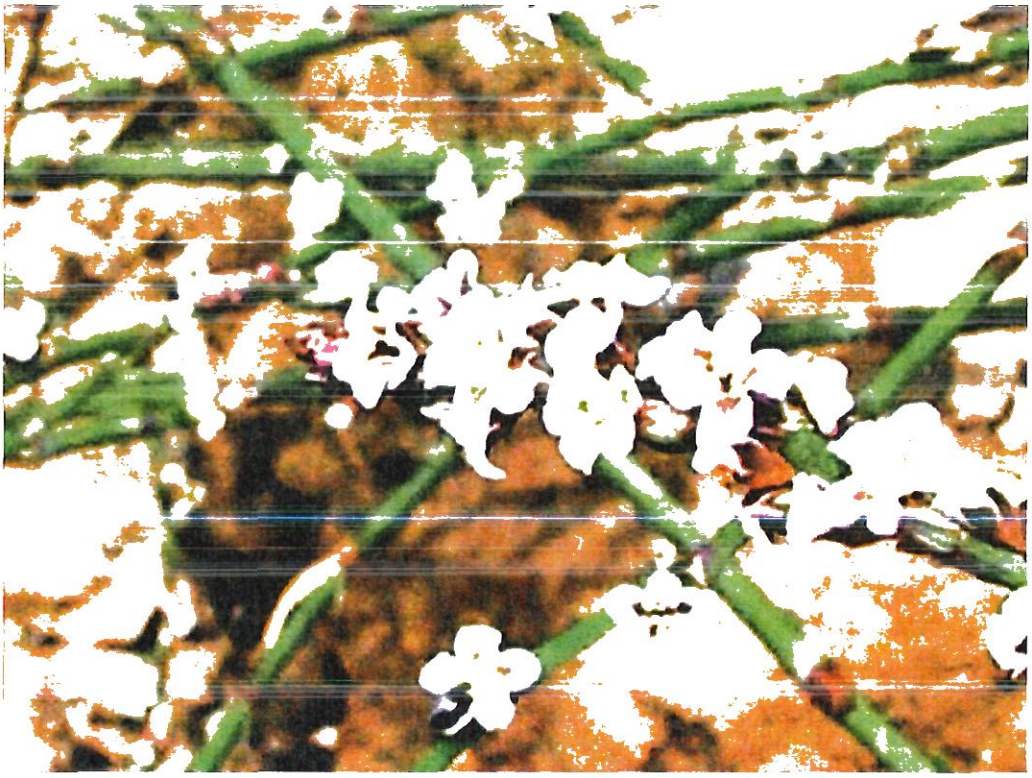
- **Arabic name**: Arjoon
- **Scientific name**: *Podaxis pistillaris* (L. ex. Pers) Fr.
- **Common name**: Khumbhi
- **Family name**: Agaricaceae
- **Growth habit**: Fungus
- **Life cycle**: Annual
- **Part/s used**: Fungus
- **Chemical constituents**: Crude protein (21.06%), ether extract, ash, fibre, nitrogen, carbohydrates and lipids.
- **Pharmacological action**: The fungus is used for skin diseases, broken bones and sunburn. It is a fly repellent, and shows antimicrobial activities against *Pseudomonas aeruginosa* and *Proteus mirabilis*. Additionally, it shows antibacterial activity against *Staphylococcus aureus*, *Micrococcus flavus*, *Bacillus subtilis*, *Proteus mirabilis*, *Serratia marcescens* and *Escherichia coli*.
- **Other uses**: The fungus is hunted and eaten by folk medicine practitioners for its delicacy and deliciousness, as well as its medicinal value. It has often been used for body painting.
- **Caution**: No reports.

Al- Petra

- **Arabic name**: Qurdab, Batbat Al-Tuyoor, Genjer, Rrabat, Qadab
- **Scientific name**: *Polygonum aviculare* L.
- **Common name**: Knotgrass, Common Knotgrass, Birdweed, Pigweed, Lowgrass
- **Family name**: Polygonaceae
- ***Growth habit***: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves, flowering stems, flowering herb, root, and seeds.
- **Chemical constituents**: Silicic acid, tannin, flavone glycosides (ephiocolarin), and probably saponins. It also contains fatty oil, resin, anthraquinone, organic acids (gallic, polyuronic) anthraquinone derivatives, anthraquinol, volatile oils consists □-camphor, linalool, spathulenol, camphene, vitamin K, volatile fatty acids, hemicamphor material, flavones and calcium oxalates. The extract contains kaempferol, quercetin, juglanin, astragalin, avicularin, quercetin, myricitrin, desmanthin-1, loliolide and syringaresinol; free flavonoid aglycones include taxifolin, quercetin-3-Me ether, myricetin, luteolin, isorhamnetin and rhamnetin. Flavonoids, naphthoquinone, flavonoid glycosides, phenolic acids, hyperoside-glycosides, and hyperoside (quercetin-3-O-galactoside) are also present.
- **Pharmacological action**: A whitening cosmetic composition containing the extract of this plant shows excellent whitening effects and effects on skin stability; it is an antioxidant cosmetic with an excellent free radical scavenging effect, and it is also excellent for the prevention of skin ageing and wrinkles. It shows an anti-fibrotic effect on fibrotic rats, anti-lipid peroxidation, and is a liver protective in rats. It is included in compounds useful for the treatment of rough skin and gives gloss to the hair. It is antiphlogistic, astringent, sedative, anti-diabetic, tonic, cicatrizing, and depurative, and is effective for stomach aches, cardiovascular disorders, gastric ulcers, gout, rheumatism, blood spitting, dysentery, lung disorders, bronchitis, jaundice, and gall and kidney stones. It is a coagulant, diuretic, enhances blood circulation, and a urinary system and menstrual regulator. It is also anthelmintic, cardiotonic, cholagogue, emollient, expectorant, febrifuge, haemostatic, lithotriptic, anti-haemorrhoids, vasoconstrictor and vulnerary, and cures dermatitis and skin sores. It is used in the treatment of pulmonary complaints because the silicic acid strengthens connective tissues in the lungs. The plant is widely used on wounds, bleeding, and varicose veins. The seeds are purgative and are effective against cholera, tuberculosis, gastritis, enteritis and severe diarrhoea. They can be taken for kidney disorders, uroliths and kidney stones.

In folk medicine, modern herbalists recommended knotweed to treat excessive menstrual flow and to stop nose bleeding. The seeds are emetic. The root is used to prepare tea as a mouthwash for cankers, and is also useful for arthritis.

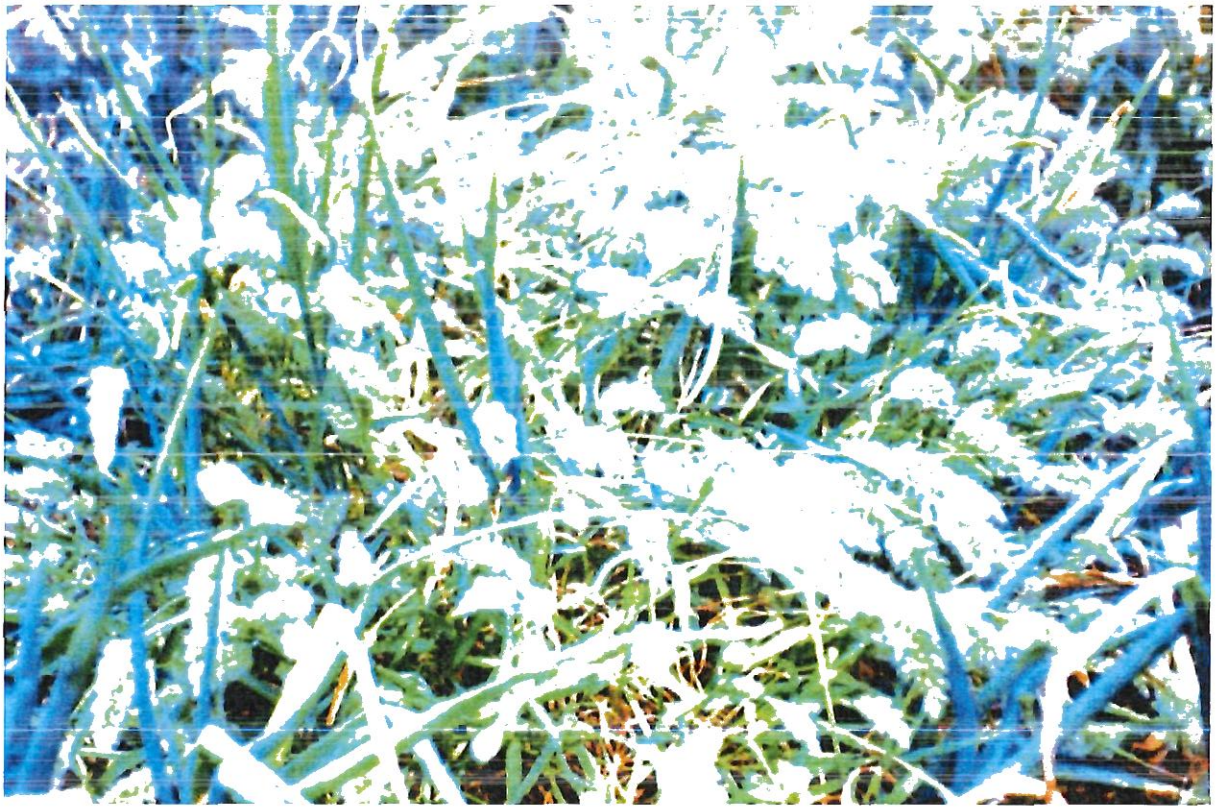
- **Other uses**: A tincture characterized by good nutritional properties in a composition with other plant extracts is used in candied sweets, and an analeptic drink can be made with cinnamon.
- **Caution**: The plant contains calcium oxalates.



The flowering plant

Polygonum equistiforme Sibth & Sm.

- **Arabic name**: Qadab, Rabbat
- **Scientific name**: *Polygonum lapathifolium* L.
- **Common name**: Pale Persicaria, Knotweed, Willow Weed, Curlytop Knotweed
- **Family name**: Polygonaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant, and flowering stems.
- **Chemical constituents**: Tannins, volatile aromatic oil, organic acids, and a large amount of vitamin C (mainly in fresh materials).
  Roots contain stilbenes, which are aromatic hydrocarbons, 2-methoxy-6-acetyl-7-methyl juglone, and a naphthoquinone, polydatin; another stilbene compound also produces emodin, an anthraquinone, isoflavan-4-ol, dihydrochalcone and chalcone.
- **Pharmacological action**: The whole plant is antiseptic, astringent and diuretic. Its infusion has been used in the treatment of stomach complaints and fevers. It is applied externally to burns. It is antiphlogistic, anti-bleeding and also used against urine disorders.
- **Other uses**: The plant produces a soft white froth like that of soap. It is used for bathing and washing clothes.
- **Caution**: Some members of this genus can cause photosensitivity in susceptible people. Many species also contain oxalic acid which can bind to other minerals, making them unavailable to the body and leading to a mineral deficiency. Cooking the leaves will reduce their oxalic acid content. People with a tendency to rheumatism, arthritis, gout, kidney stones or hyperacidity should take special caution when including this plant in their diet, since it can aggravate their condition.



- **Arabic name**: Thayl Al-Thailab, Thayl Al-Far, Thayl Al-Sabe'i
- **Scientific name**: *Polypogon monspeliensis* (L.) Desf.
- **Common name**: Annual Beard-Grass, Annual Rabbitsfoot Grass
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant.
- **Chemical constituents**: Phenols.
- **Pharmacological action**: An infusion of the plant's ashes has been used in the treatment of heart palpitations.
- **Other uses**: It has mercury-accumulating properties as a phytoremediation plant. The plant has been used extensively for food, particularly the seeds.
- **Caution**: No reports.

- **Arabic name:** Farfahina, Baqlla, Rejli, Farfahain
- **Scientific name**: *Portulaca oleraceae* L.
- **Common name**: Purslane, Common Purslane, Verdolaga, Pigweed, Little Hogweed, Pusley
- **Family name:** Portulacaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant, leaves, seeds and flowers.
- **Chemical constituents**: Free oxalic acids, fixed oil, alkaloids, omega-3 fatty acids, coumarins, flavonoids, vitamins A, B, C and E, cardiac glycosides, and anthraquinone glycosides. Norepinephrine, dopamine, friedelan-4-□-methyl-3□-OH, daucosterol, □-sitosterol, □-sitosterol glucoside, N, N'-dicyclohexylurea, and allantoin. Monoterpene glucoside, noradrenaline, calcium salts, iron, maleic, citric, glutamic, asparaginic and nicotinic acids, glucose, fructose, and sucrose. Betacyanins, alanine, caffeic acid, calcium oxalate, mucilage, potassium nitrate, chlorates and sulphate, catechol, digalactosyldiacylglycerol, docosahexaenoic acid, eicosapentaenoic acid, HCN, histidine, l-noradrenalin, linoleic acid, linolenic acid, alpha-lysine, methionine, oleic acid, phytin-p, saponin, sinapic acid, oxalic acid, beta-sitosterol, tannin, threonine, tryptophan and valine. It is a very rich source of alpha-linolenic acid (ALA).
- **Pharmacological action**: It is a blood-cleanser, refreshes the digestive system, antiphlogistic, analgesic, detergent, demulcent, antidote, aperients, anti-fungal, alexiteric, alterative, emollient, cardiotonic, sedative, soporific, astringent, vermifuge, viricide, bactericide, tonic, hepatic, purgative, muscle relaxant and laxative. It is used for anthrax, ardour, arthritis, bites (bug, snake), blennorrhagia, boils, burns, colds, colic, constipation, coughs, dermatitis, dyspepsia, dyspnoea, earache, eczema, edema, empacho, enteritis, fever, fungicide, genitals, haematuria, haemostasis, haemoptysis, haemorrhages, heptoses, herpes, hyperglycaemia, hypotension, inflammation, insomnia, intestines, leucorrhoea, nausea, nephrosis, opacity, ophthalmia, palpitations, piles, poison, pruritis, sores, thirst, toothache, tumours, warts, and wounds. It treats osteoporosis and psoriasis. The plant is of a high nutritive value. The whole plant, except the root, is used as an antibacterial and anthelminthic in the form of a juice. It is a refrigerant, and is used for lower abdomen and urinary tract problems. Purslane is a clinically effective treatment for oral lichen planus, as well as pain from bee stings, and postpartum and intestinal bleeding.

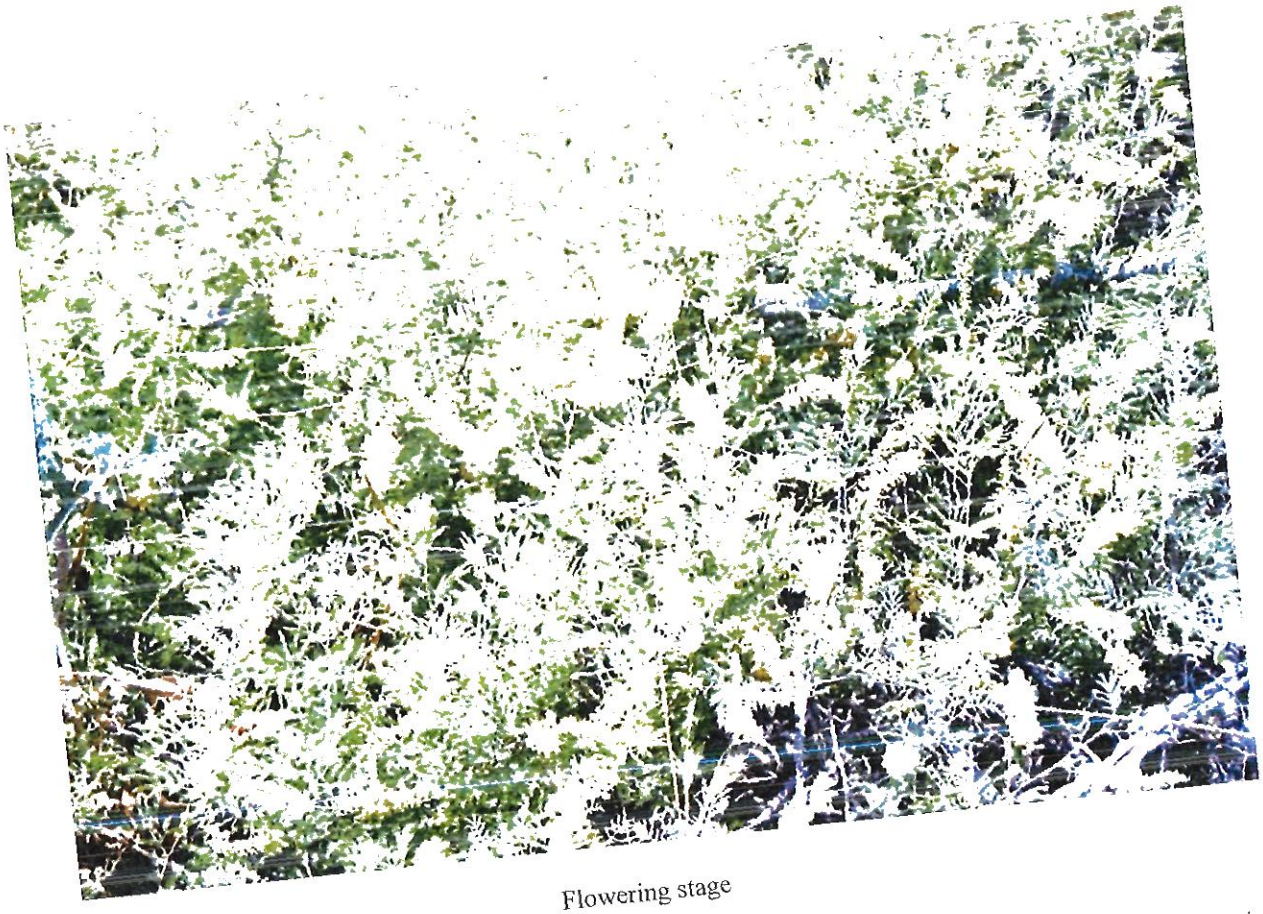
A cosmetic composition containing the plant's extract prevents skin damage such as erythema (skin reddening and sunburn) and inflammation caused by ultraviolet light. It is an anti-irritant, and is used for fat-removed foodstuffs, cosmetics for skin whitening, in compositions for the treatment of prostate gland disease, haemorrhoids, and as an anti-bacterial, anti-carcinogen, and for nicotine removal. It is included in topical compositions for improving the aesthetic appearance of the skin by preventing, ameliorating, treating and/or reducing fine lines and/or wrinkles. It has cholagogic properties and diuretic and anthelmintic qualities, is used against cholelithiasis and amoebiasis, and is beneficial for colitis.

The plant possesses anti-scurvy and diuretic properties. It is useful for liver, spleen, kidney, bladder and cardiovascular diseases, dysentery, dysuria, haematuria, gonorrhoea and ulcers of the mouth. It is used for localized inflammations, and is anti-diabetic and anti-anaemia. It is also used for sand in the kidney and bladder, stomach acidity, as an aphrodisiac, and is useful against intestinal worms and digestive system inflammations. A paste of the leaves is applied to scalds, swellings and erysipelas. The plant acts as an antioxidant. It is formulated in cosmetics, bath preparations, and dentifrices, and reduces irritation to the skin and mucus membrane. *P. oleracea* leaves reduce oxidative stress in vitamin A-deficient rats. They are used for headaches and ulcers. The seeds' powder is used for diarrhoea.

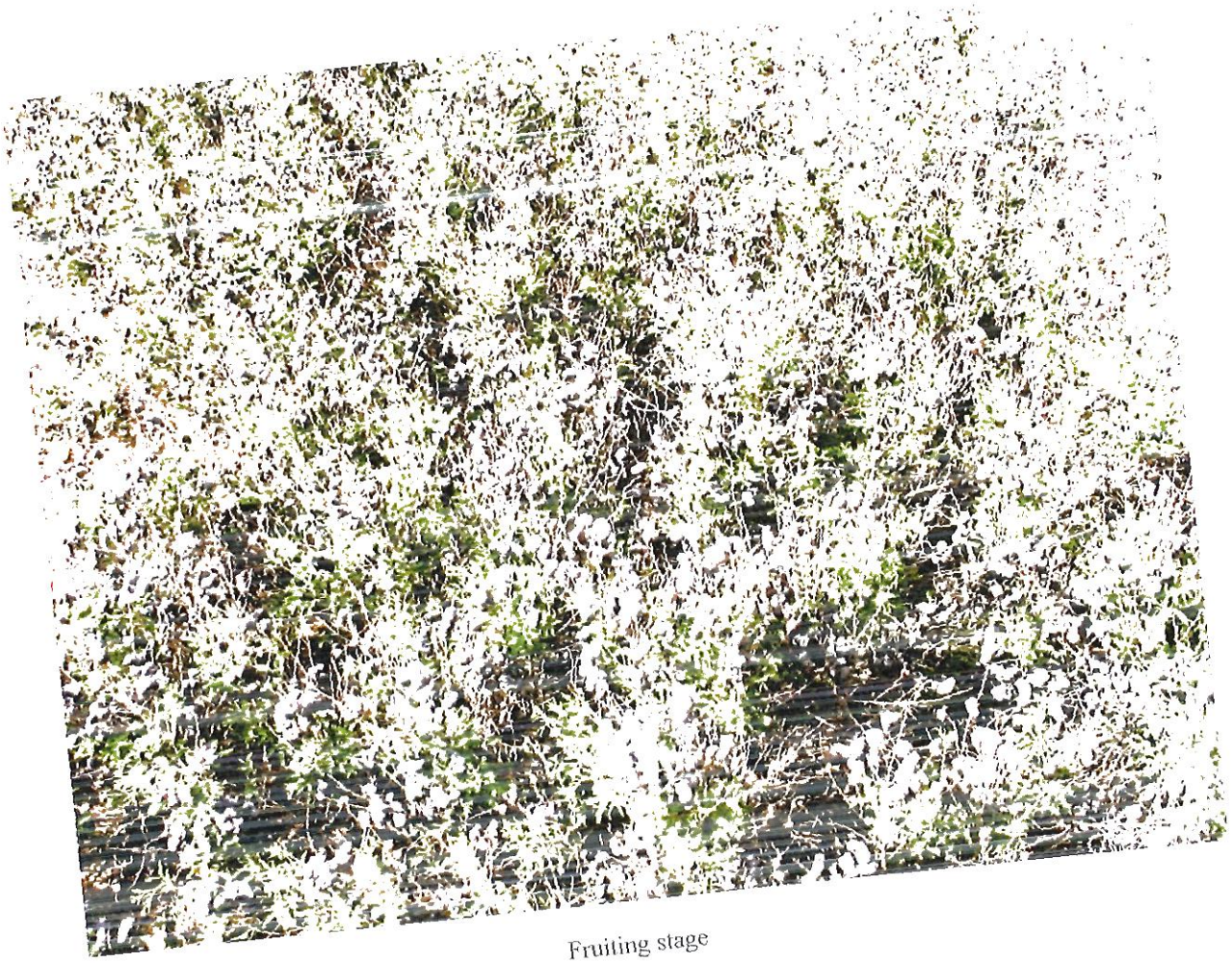
- **Other uses**: Fresh young shoots and leaves are consumed raw and in salads. The leaves are also employed in soups. Vitamin C is highest in the green leaves. It contains a good amount of ascorbic acid, which gives it an acidic taste. Traditionally, it is considered as a comestible plant of high gastronomic, nutritive, and medicinal values. It is a pickle and a vegetable. Fleshy-leaved and emerald green, purslane makes an excellent addition to a tomato salad, when it is picked before its small yellow flowers appear. The plant is rich in minerals, which facilitates its use as a green manure. It has been grown as a potherb. It is used in dishwashing detergents and household cleaners. It is regarded as a wild flower and is an ornamental in gardens.
- **Caution**: No data on the toxicity of *P. oleracea* are available in the literature. However, the plant does contain cardiac glycosides and oxalic acids, which can be toxic. Its use is contraindicated during pregnancy and for those with colds or weak digestion. It contains high concentrations of soluble oxalates, which are poisonous to sheep and goats.

Portulaca grandiflora (an ornamental plant)

- **Arabic name**: Yanboot, Khrainbeh
- **Scientific name**: *Prosopis farcta* (Banks et Sol.) Macbride
- **Common name**: Locust Pods, Syrian Mesquite
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Leaves, roots, vegetative branches, and the whole plant.
- **Chemical constituents**: Cadmium, copper, lead, zinc, protein, sesquiterpene lactones, alkaloids, proanthocyanidins and selenium.
- **Pharmacological action**: The plant is hypoglycaemic.
  In folk medicine, it is used as an astringent, anti-dysenteric and aphrodisiac. It is a cure for haemorrhoids, cardiac and chest pain, diabetes, kidney stones, and menstrual cramps, and exhibits activity against *Candida* species. Its water, when drunk, is an anti-conceptive and regulates menstruation. Stem and root peels fragment old teeth, uprooting them, and alleviate their ailments. The plant is diuretic and emetic, removes warts, prevents hair growth, and is used for intestine sores, knee ailments, ophthalmia and asthma.
- **Other uses**: It kills chiggers. The plant may be used in desertification to revegetate drylands that are grazed at certain growth stages by sheep and camels.
- **Caution**: *Prosopis* pollen grains have been reported to cause allergic reactions in sensitive people. *Prosopis* is a serious weed in its native ranges.



Flowering stage



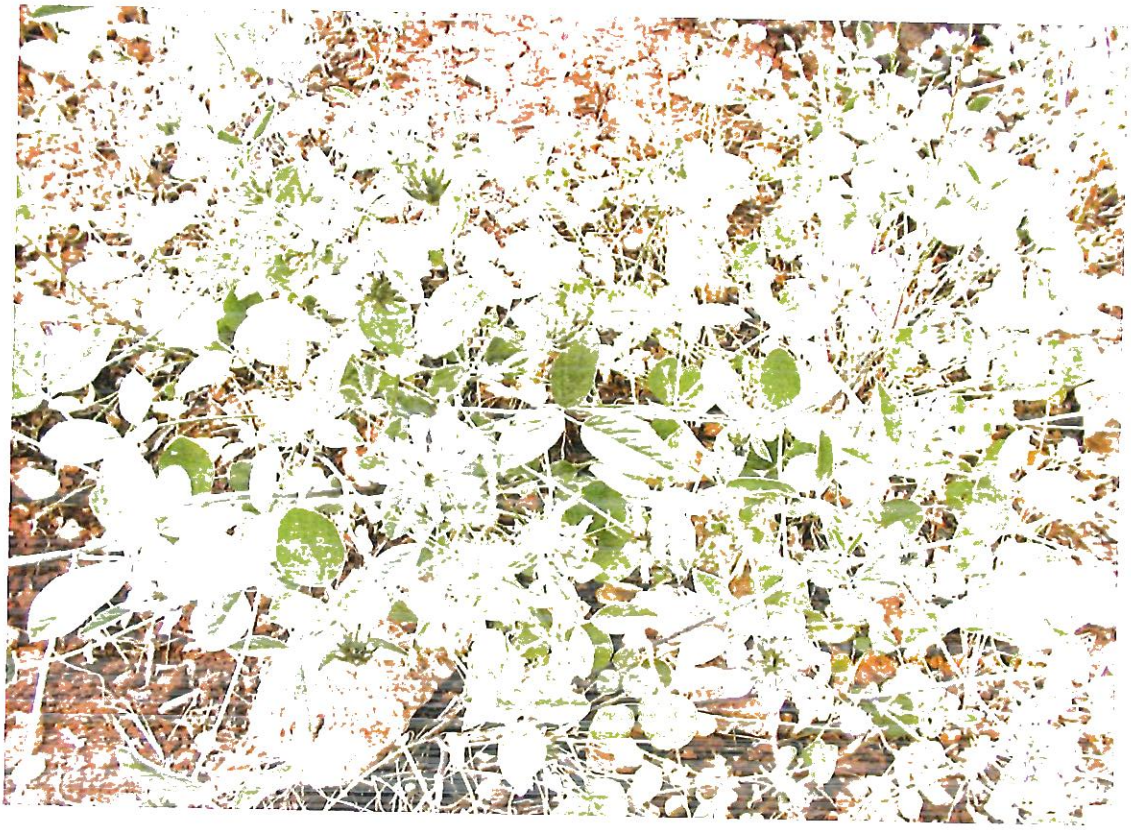
Fruiting stage

- **Arabic name**: Mahlab Aswad, Oweinah
- **Scientific name**: *Psoralea corylifolia* L.
- **Common name**: Black Dot
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Climber Shrub
- **Life cycle**: Perennial
- **Part/s used**: Leaves, flowers, roots, and the whole plant.
- **Chemical constituents**: Prenylated flavonoids which are all toxic. Bakuchiol, a hepatoprotective compound and isoflavone, a known prenylated phenolic terpene. The oil constitutes fatty acids, namely behenic, palmitic, stearic and lignoceric, while the unsaturated fatty acids are oleic, linolenic and linoleic. Psoralen and isopsoralen and prenylflavone derivatives are also present. The essential oil is made from acetic acid ET ester (1.61%), linalool (3.56%), trans-caryophyllene (26.8%), calarene (4.48%), alpha-humulene (3.28%), 1s, cis-calamenene (3.16%), caryophyllene oxide (9.83%) and iso psoralen (3.02%).
- **Pharmacological action**: The plant is anthelmintic, antiphlogistic, diaphoretic, diuretic, relaxant, sedative, tranquillizer, aphrodisiac, cooling and deodorant. It is used for leprosy, leukoderma, dyspnoea, fever, mastitis, and painful swellings. The plant is poisonous. Its extract is effective in mice hair removal, and is included in cosmetics containing keratinizing enzyme inhibitors and hair growth inhibitors to act on hair removal. The plant has a radical scavenging activity; bakuchiol is antioxidant and has antimicrobial activities against oral microorganisms. Mature seeds and/or bakuchiol are ingredients in different products that prevent the growth of *Legionella* and/or methicillin-resistant *Staphylococcus aureus* (MRSA). The extract also completely kills MRSA in H2O at 42^0. It is antibacterial. The seed extract contains the active ingredient bakuchiol which is useful in manufacturing oral hygiene products to prevent and control periodontal diseases and cavities. Bakuchiol is effective in protecting mitochondrial functions against oxidative stress. It is the most potent antioxidant for microsomes and for the inhibition of oxygen consumption induced by lipid peroxidation. Bakuchiol also protects human red blood cells against oxidative haemolysis, and extracts exhibit anti-dermatophytic activity. Seeds' extracts are antifungal, anti-infections caused by *helicobacter pylori*, anti-inflammation, cosmetic, antidepressant, and analgesic, and are involved in a whitening composition.

Bakuchiol is anti-tumour, cytotoxic, anti-microbial and antiphlogistic. Psoralidin is a cytotoxic principle of the seeds with IC50 values of 0.3 and 0.4 µg/mL against the HT-29 (colon) and MCF-7 (breast) human cancer cell lines, respectively. A coumarin, angelicin, was also isolated as a marginally cytotoxic agent along with an inactive compound, psoralen, from the plant.

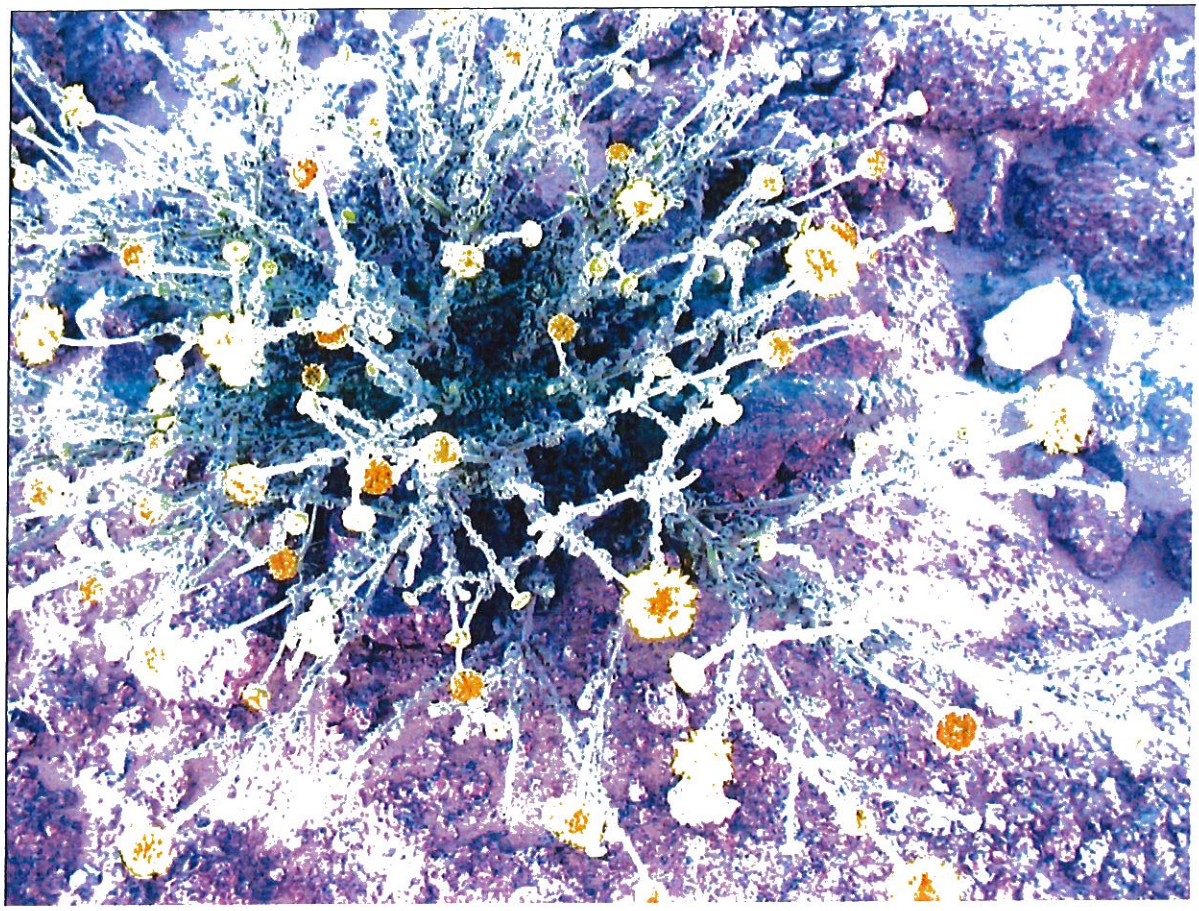
- **Other uses**: The plant is used in bathroom detergents, body soaps, bath salts, additives for bath water, and in water circles.
- ***Caution***: *Toxic materials in the plant are concentrated in the seeds. It is a genus in which some species may contain furanocoumarins such as psoralen in the seeds.*

The plant in its natural habitat

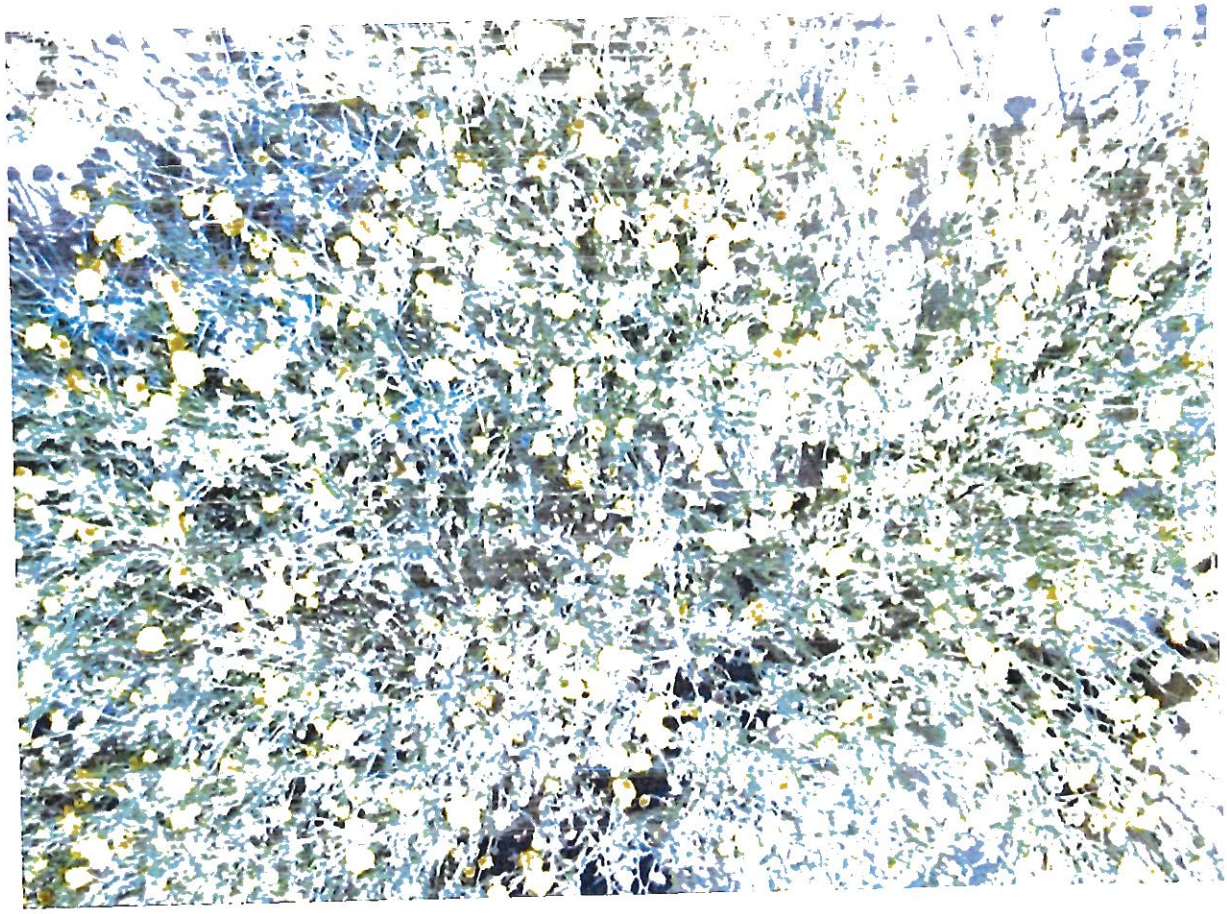


- **Arabic name**: Rairai
- **Scientific name**: *Pulicaria arabica* L. (Cass)
- **Common name**: Arab Fleabane
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Flowers and fruits.
- **Chemical constituents**: Flavonoids, 3,7-dimethoxy kaempferol, 3-methoxy kaempferol, kaempferol, dihydro kaempferol, 3,7-dimethoxy quercetin, 3-methoxy quercetin, quercetin and dihydro quercetin. In addition, an acetophenone, coumarins, flavonoid aglycons, caryophyllene derivatives, and essential oils are present.
- **Pharmacological action**: The bruised leaves have a soap-like smell. The leaves and roots are astringents and can be used in the treatment of dysentery. A paste of the plant is applied externally to wounds. It is a tonic, digestion stimulant, lactagogue and vermifuge. It is used for dysmenorrhoea and epilepsy. The aerial parts of the plant are used as an anti-diarrhoeal agent and as a flavouring agent.
- **Other uses**: It is a wild flower.
- **Caution**: No reports.

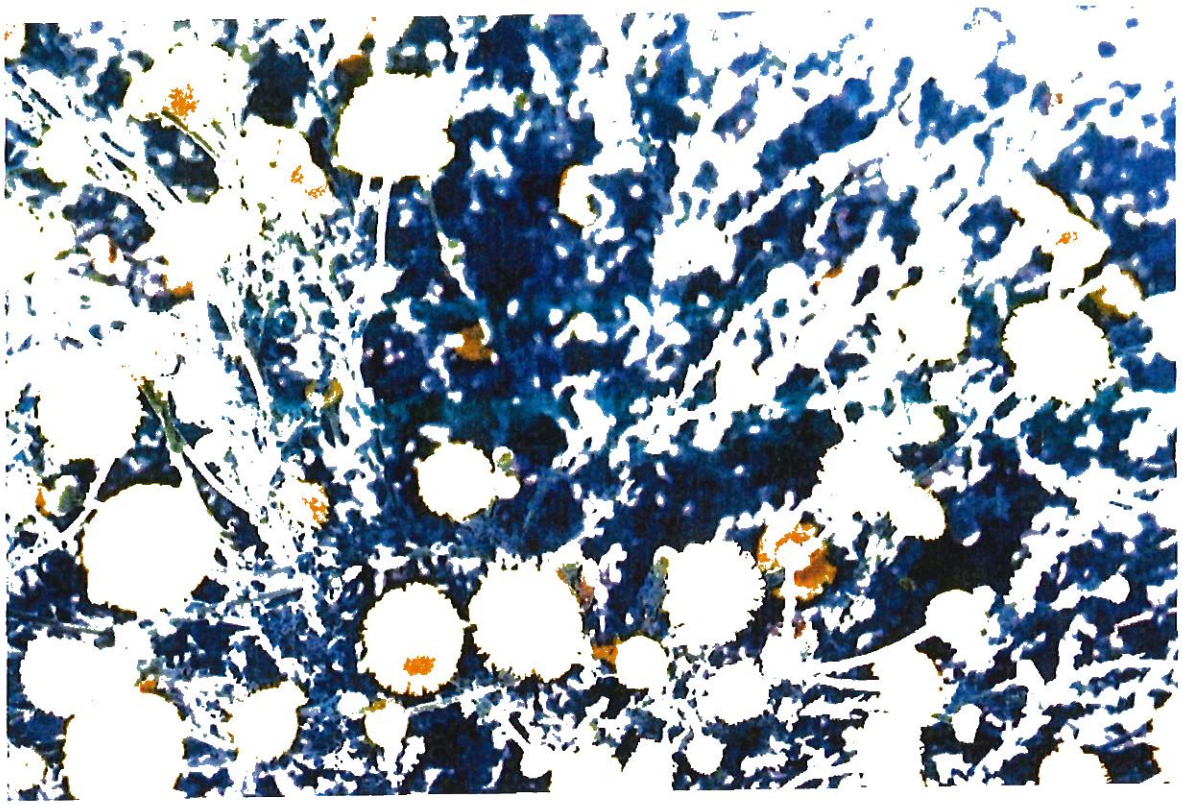
- **Arabic name**: Rairai
- **Scientific name**: *Pulicaria crispa* (Forssk.) Oliver
- **Common name**: Crisp Fleabane
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Aerial parts, and the whole plant.
- **Chemical constituents**: Terpenoids, sesquiterpene lactones and sesquiterpenes.
- **Pharmacological action**: The plant is a tonic, digestive (stimulant), lactagogue, and vermifuge, and is used for dysmenorrhoea, epilepsy, diarrhoea, kidney diseases and scorpion bites.
- **Other uses**: It provides an aroma and is a flavouring agent. It is a wild flower.
- **Caution**: No reports.



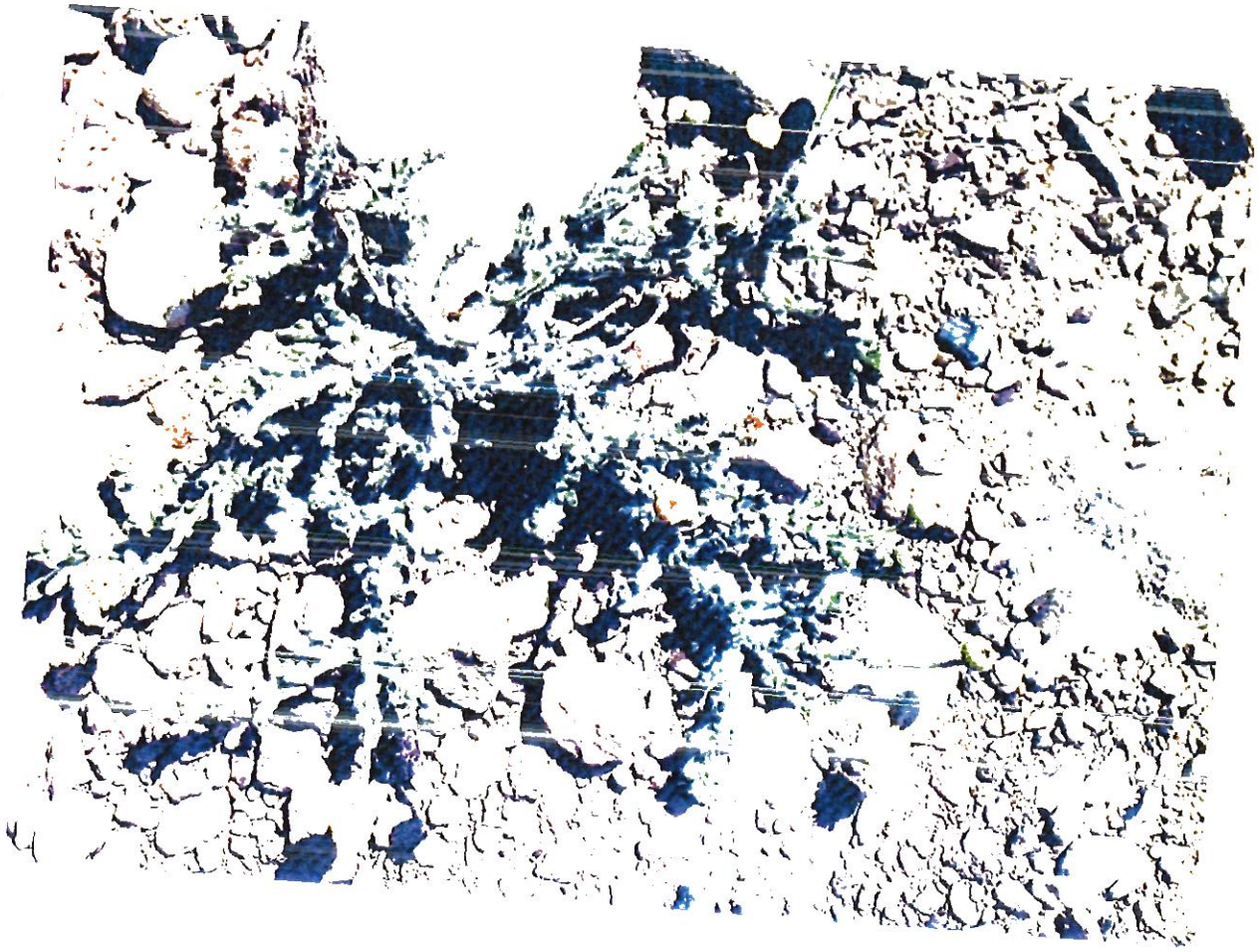
- **Arabic name**: Rairai
- **Scientific name**: *Pulicaria desertorum* DC
- **Common name**: Common Fleabane, Meadow False Fleabane
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, and fruits.
- **Chemical constituents:** Flavonoids, quercetagetin 3,7-dimethyl ether, 6-hydroxykaempferol 3,4′-dimethyl ether, 6-hydroxykaempferol 3,7-dimethyl ether, quercetagetin 3,7,3′-trimethyl ether, quercetagetin 3,7,3′,4′-tetramethyl ether, 6-hydroxykaempferol 3,7,4′-trimethyl ether and quercetin 3-glucuronide.
- **Pharmacological action**: It is used for intestinal colic and as an insect repellent, and has antiallergenic, insecticidal and antibacterial properties. In folk medicine, the plant is used for head colds, neuralgia, respiratory problems and sinusitis. The sap of the fresh leaves is used as nose drops to relieve the sinuses. Poultices are applied for headaches. For children, as an infusion, it is good for diabetes; the infusion of the leaves is also used for heart diseases, and is carminative and a stimulant.
- **Other uses**: It is sometimes added to tea as a flavouring agent. Bedouins drink it instead of tea. The plant is a wild flower.
- **Caution**: No reports.



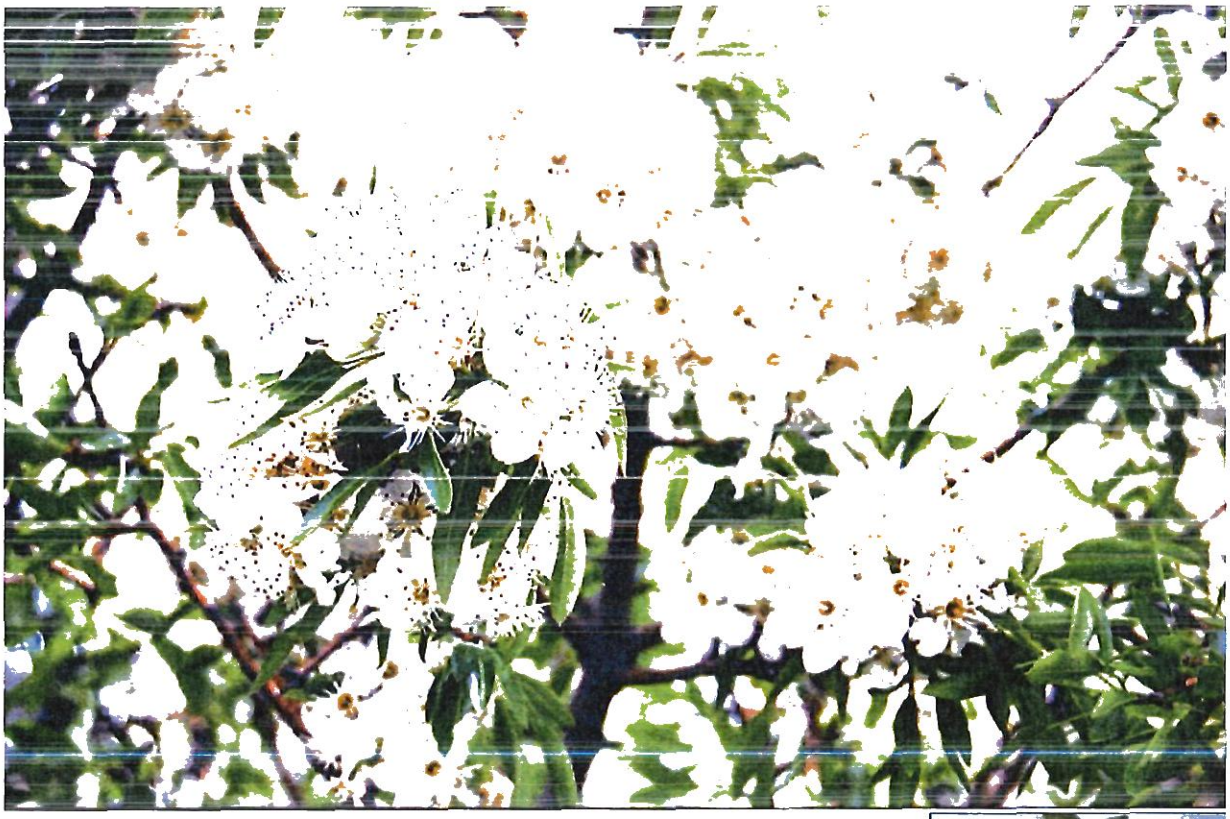
- **Arabic name**: Jathjath, Rairai
- **Scientific name**: *Pulicaria dysentrica* (L.) Gaertn.
- **Common name**: Fleabane
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant, especially the leaves and roots.
- **Chemical constituents**: The principal components of flowers' essential oil are sesquiterpenes γ-cadinene, δ-cadinene, and α-cadinol while thymol, δ-cadinene and τ-cadinol constitute the major components of stems' essential oil. The roots are composed of non-identified constituents, α-cadinol and thymol. Caryophyllene derivatives, waxes and fatty acid are also present. Flavonoids, quercetagetin 3, 7-dimethyl ether and another 6-hydroxykaempferol 3, 4′-dimethyl ether. 6-hydroxykaempferol 3, 7-dimethyl ether together with quercetagetin 3, 7, 3′-trimethyl ether, quercetagetin 3, 7, 3′, 4′-tetramethyl ether and 6-hydroxykaempferol 3, 7, 4′-trimethyl ether and quercetin 3-glucuronide are also preeesssent. The lipophilic flavonoids include one 6-hydroxykaempferol and 3, 7, 4′-trimethyl ether. The plant also contains alkaloids, sterols and fatty acids.
- **Pharmacological action**: It is aromatic, anthelmintic, anti-fever, and an appetizer, and is used for diarrhoea, digestion disorders, kidney diseases, and scorpion bites. It is used externally as an antibacterial and has cytotoxic activities. The plant is useful in curing haemorrhoids. The bruised leaves have a soap-like smell, are astringent and can be used in the treatment of dysentery. The root is also astringent and treats dysentery. A paste of the plant is applied externally to wounds. The aerial parts are used as an anti-diarrhoeal agent. In folk medicine, the plant is widely used as a digestive and carminative. Fresh or dried plant tea is effective against stomach diseases and its powder is used for animal wound healing and as an inhalation to stimulate sneezing. The oil is a sedative for animals, and plant smoke repels chiggers. The oil is also used in high-value perfumes because of its beautiful aromatic smell.
- **Other uses**: It is a wild flower and a spice in some traditional food.
- **Caution**: No reports.



- **Arabic name**: Repil, Rairai, Sha'i Al-Jabal
- **Scientific name**: *Pulicaria incisa* (Lam) DC.
- **Common name**: Wave-Leaved Fleabane, Fleabane
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves
- **Chemical constituents**: 2-hydroxy-4,6-dimethoxy acetophenone, □-amyrin, lupeol acetate, 8-epi-inuviscolide and 8-epixanthatin-1□,5□ epoxide; the flavonoids identified are quercetin-3,3'-dimethyl ether, kaempferol-3-me ether, quercetin-3-me ether, (2R,3R)-dihydrokaempferol-7-me ether, kaempferol and quercetin, and a kaurene diterpene glycoside, steviolbioside and diterpene glycosides are also present.
- **Pharmacological action**: The plant's infusion exhibits an antioxidant effect *in vitro* and induced glial-derived neurotrophic factor transcription in astrocytes. The infusion may be used as a functional beverage for the prevention and/or treatment of brain injuries and neurodegenerative diseases in which oxidative stress plays a role.
  Oxidative stress is involved in the pathogenesis of neurodegenerative diseases such as Parkinson's and Alzheimer's diseases. Astrocytes, the most abundant glial cells in the brain, protect neurons from reactive oxygen species (ROS) and provide them with trophic support, such as glial-derived neurotrophic factor (GDNF). Thus, any damage to astrocytes will affect neuronal survival. The infusion attenuated the intracellular accumulation of ROS following treatment with hydrogen peroxide and zinc and prevented the H_2O_2-induced death of astrocytes.
- **Other uses**: An infusion of leaves and shoots is used as a hot beverage.
- **Caution**: No reports.



- **Arabic name**: Rairai, Jathjath, Sha'i Al-Jabal
- **Scientific name**: *Pulicaria undulate* (L) Kostel
- **Common name**: Crisp Leaved Fleabane
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves, oil, and the whole plant.
- **Chemical constituents**: Essential oils; the major compounds are the oxygenated monoterpenes carvotanacetone (91.4%) and 2,5-dimethoxy-p-cymene (2.6.%). Sesquiterpene lactones and D-carvotanacetone are also present.
- **Pharmacological action**: It is aromatic, carminative and stimulant. The essential oil showed moderate cytotoxic activity against MCF-7 breast tumour cells, with an IC50 of 64.6 +/-13.7 μg/mL. It is antibacterial, and is also a remedy for skin diseases and skin ulcers. It has different uses in folk medicine, including as a diuretic.
- **Other uses**: It is a wild flower. It has a refreshing tea flavour. The essential oil has antibacterial properties. The oil's antibactericidal activity was strongest against *Staphylococcus aureus* and methicillin-resistant *S. aureus* and *Candida albicans*.
- **Caution**: No reports.



Fruiting twig

- **Arabic name**: Injass Barri, Ajass Barri, Kumathra Barri
- **Scientific name**: *Pyrus syriaca* Boiss.
- **Common name**: Wild Pear
- **Family name**: Rosaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Fruits, seeds, and roots.
- **Chemical constituents**: Mucilage, amygdalin and sugar.
- **Pharmacological action**: It is used for digestive system problems, food poisoning, and problems of the kidney, urinary tract, and cardiovascular systems. It is effective for coughs and catarrhs. The acrid root is diaphoretic and diuretic. The fruits are laxative, and their juice is anti-dysenteric and astringent. The seed is applied externally as anti-inflammatory.
- **Other uses**: Fresh ripe fruits are eaten raw or made into jam or sweets.
- **Caution**: No reports.

Fruits

- **Arabic name**: Balloot, Balloot Al-Sendyan
- **Scientific name**: *Quercus coccifera* L.
- **Common name**: Kermis Oak, Scarlet Oak
- **Family name**: Fagaceae
- **Growth habit**: Tree
- **Life cycle**: Perennial
- **Part/s used**: Leaves, fruits, and bark of young trees without cortex and only from young branches in the spring.
- **Chemical constituents**: Sugar, ash, organic nitrogen, starch, tannins, glycerides, tannic acid, resin, organic acids and bitter materials.
- **Pharmacological action**: The plant is antiseptic, haemostatic and astringent. It is used for digestive inflammations, skin sores and cuts, haemorrhoids, diabetes and diarrhoea. Its fruits are used as a hair dye. The plant's water extract is externally used for a prolapsed anus and uterus, leucorrhoea, and skin exanthema, especially in between toes. An extract with cumin is useful in curing haemorrhoids. Ground roasted fruits mixed with vaseline are similarly used. The galls are diuretic and anti-diarrhoeal, and the bark is used for wounds and ulcers. It is used in tanning as an astringent, anti-diabetic and anti-bleeding.
- **Other uses**: Mature nuts are eaten roasted; the acorns are also edible in a processed form after leaching tannins. They are a staple part of the forage consumed by wildlife, including by squirrels and jays. The wood is used for different purposes, especially for home furniture. Oak flour is added to food and used for stomach inflammations. The flour of sweet fruits is used as a coffee substitute and galls are used for hair colouring.
- **Caution**: Oak is poisonous to cattle, horses, sheep, and goats in large amounts due to the toxic tannic acid, and causes kidney damage and gastroenteritis. Symptoms of poisoning include weakness, low body temperature, ceasing of rumination, black diarrhoea, reduced lactation, no drinking, anorexia, depression, preliminary constipation, black faeces (which may contain blood), blood in urine, running water drops from the eye, mouth and nose, and colic. The exception to oak's toxicity in livestock is the domestic pig, which may be fed entirely on acorns in the right conditions, and has traditionally been pastured in oak woodlands. Toxicity symptoms for humans include low body temperature, irregular heart pulses, abdominal pain and death.

Pre-flowering twigs

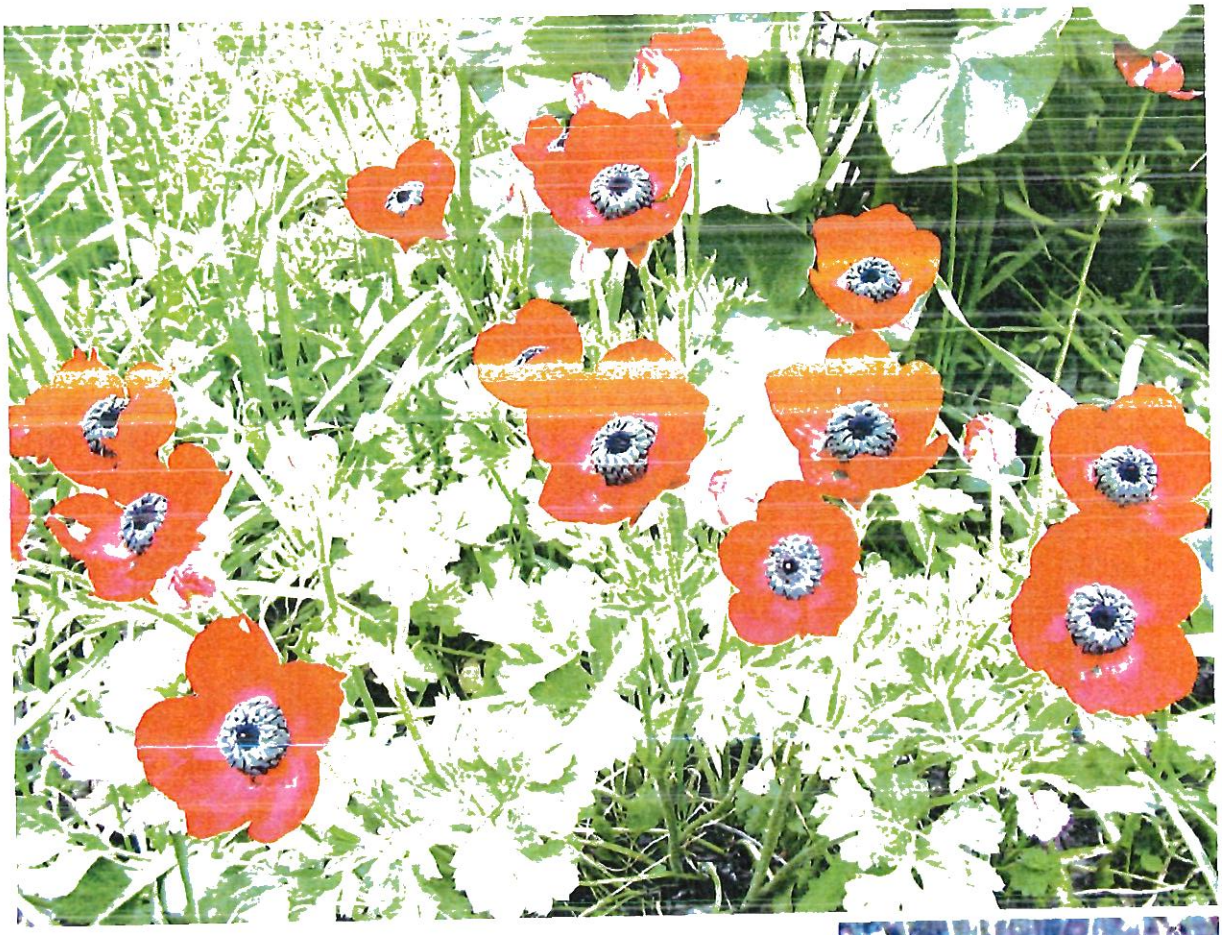
The whole plant

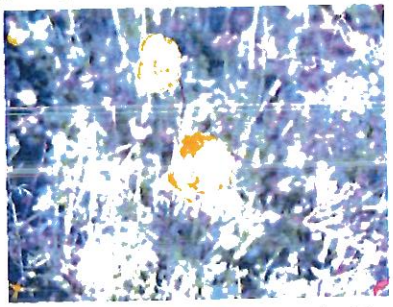
Galls

- **Arabic name**: Sendyan, Mallool, Ballot Afsi
- **Scientific name**: *Quercus infectoria* Oliv.
- **Common name**: Oak
- **Family name**: Fagaceae
- **Growth habit**: Tree
- **Life cycle**: Perennial
- **Part/s used**: The bark is dried and used in medical preparations since it is rich in tannin and galls.
- **Chemical constituents**: Gallic acid, tannic acid that gives gallatonic acid, a small amount of starch, resin and salts of calcium oxalates are present in the galls.
- **Pharmacological action**: The galls are strong astringents and are used for burns, and are also toxicants since they precipitate alkaloids. The plant is styptic, and can be externally used as an antiseptic and a remedy for skin burns. Its extract has inhibitory effects on hepatitis C virus (HCV), and a plant decoction is anti-diarrhoeal.
- **Other uses**: The roasted fruits are edible. The plant is a forest tree. Galls are used in tanning and dyeing, in the ink industry, and as a source of tannic acid.
- **Caution**: The plant is known to cause problems in animals. Toxication by galls or *Quercus* is evidenced through debility, low body temperature, anorexia, the cessation of rumination in ruminants and of drinking water, preliminary constipation, black-coloured faeces with some blood, and water droplets from the eye, nose and mouth. In humans, it is reflected in a low body temperature, disturbed heart pulses, abdominal pains, and death.

- **Arabic name**: Balloot, Fash, Mallool
- **Scientific name**: *Quercus ithaburensis* Decne
- **Common name**: Deciduous Oak
- **Family name**: Fagaceae
- **Growth habit**: Tree
- **Life cycle**: Perennial
- **Part/s used**: Buds, flowers
- **Chemical constituents**: Tannin, resin, organic acids, and bitter materials.
- **Pharmacological action**: The plant is used for coughs, digestive problems, stomach and duodenal ulcers, cardiac diseases and rheumatism.
- **Other uses**: Mature fruits are eaten roasted. It is a forest tree, and its wood is used in constructions and home furniture.
- **Caution**: The plant is known to cause problems in animals. Toxicity symptoms are feebleness, low body temperature, black diarrhoea, a drop in milk production in cows, severe damage to kidneys, anorexia, the cessation of rumination and drinking water, preliminary constipation, bloody blackish faeces, weakness, and watery eyes, nose and mouth. The toxic effects in humans are a reduced body temperature, irregular heart pulses, abdominal pain, and death.

- **Arabic name**: Kaff Al-Heir
- **Scientific name**: *Ranunculus arvensis* L.
- **Common name**: Corn Buttercup
- **Family name**: Ranunculaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves, rhizomes, flowering stems, and the whole herb.
- **Chemical constituents**: Ranunculine glycoside, anemone, protoanemonin, aconitine, and delphinine.
- **Pharmacological action**: It is used for whooping cough, urine tract problems and haemorrhoids, and as a spasmodic.
- **Other uses**: The plant is a wild flower and a common weed in field crops.
- **Caution**: Protoanemonin is contained in the fresh herb, which is converted into a non-toxic anemonin upon drying. The plant is poisonous. Its ingestion may cause some minor symptoms such as rashes, vomiting, diarrhoea and muscle aches. The ingestion of small amounts may not cause any symptoms. Exposure to juice or sap from plants may produce a skin rash or irritation. Skin wounds from some of these plants can be extremely painful, causing large blisters and skin burns.





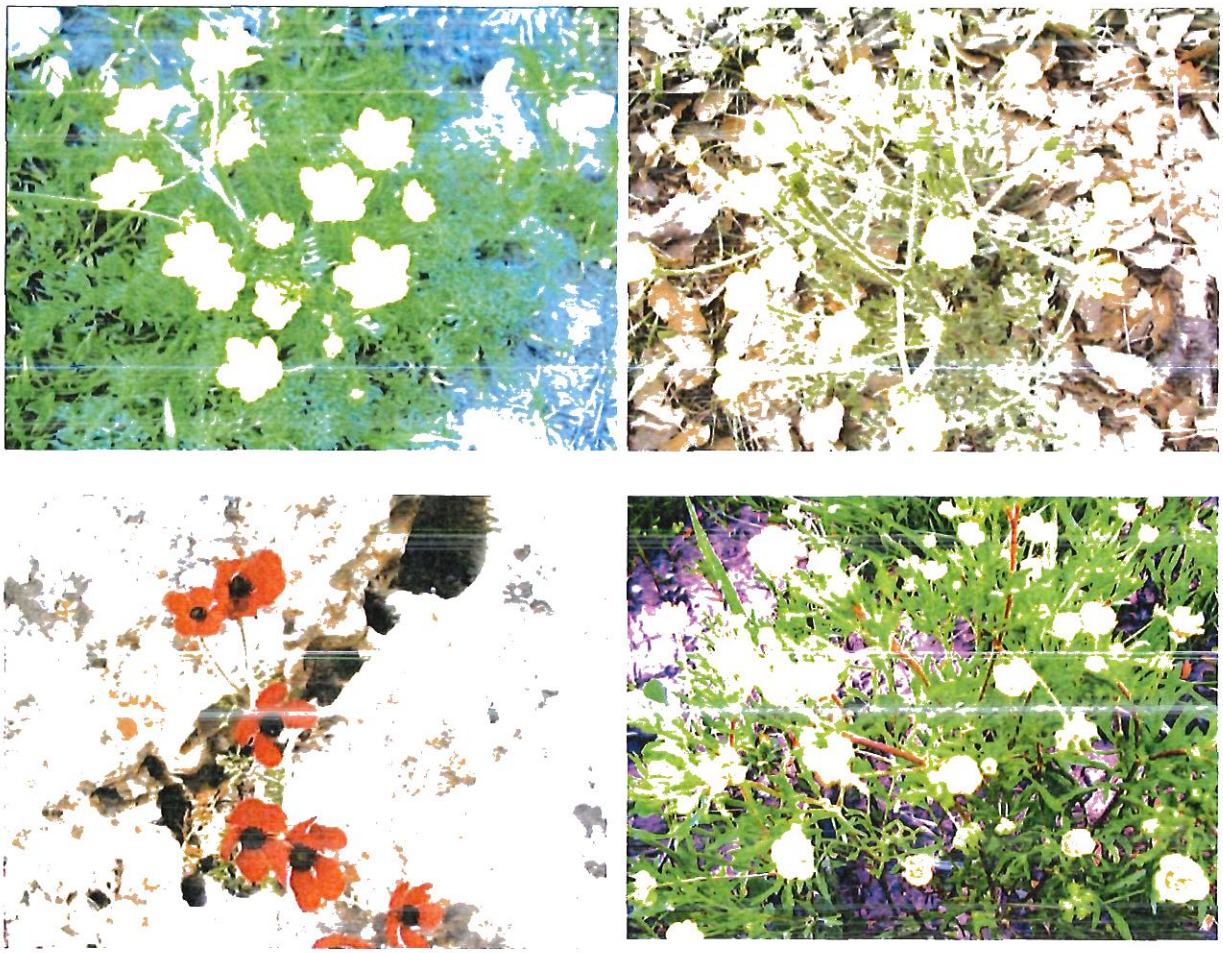
- **Arabic name**: Hoothan Asiawi, Hoothan Al-Zaharin
- **Scientific name**: *Ranunculus asiaticus* L.
- **Common name**: Persian Cowfoot, Large Ranunculus, Persian Buttercup
- **Family name**: Ranunculaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole fresh plant.
- **Chemical constituents**: Glycoside ranunculin, which is broken down into glucose and protoanemonin. The leaves contain anemonin, aconitine, delphinine, anemonol and coumarins.
- **Pharmacological action**: The plant is astringent, diuretic, narcotic, and a local demulcent; it is used for scurvy, dermatitis, shingles, rheumatism, arthritis, aggravation of the sciatic nerve and bronchitis. Traditionally, the plant is used in dyeing and perfumes, as an aromatic, and as a source of concentrated aromatic ether.
- **Other uses**: It is a wild flower, and also has antifungal activity.
- **Caution**: It is a genus in which some species may contain protoanemonin in the fresh herb. Protoanemonin converts into a non-toxic anemonin upon drying.
  All *Ranunculus* species are poisonous when grazed fresh by cattle, horses, and other livestock, but their acrid taste and the blistering of the mouth caused by their poison means they are usually left uneaten. Symptoms include dysentery, excessive salivation, colic, and severe blistering of the mucus membranes and gastrointestinal tract. When *Ranunculus* plants are handled, the naturally occurring ranunculin is broken down to form protoanemonin, which is known to cause contact dermatitis in humans. The toxins are degraded by drying, so hay containing dried buttercups is safe.
  The ingestion of the plant may cause some minor symptoms such as rashes, vomiting or diarrhoea, though small amounts may not cause any symptoms. Exposure to juice or sap from plants may produce a skin rash or irritation. Skin wounds from some of these plants can be extremely painful, causing large blisters and skin burning. The plant is known to cause problems in animals.

Different flower colours

Ranunculus damascinus Boiss.

- **Arabic name**: Hoothan, Shaqshaqiq
- **Scientific name**: *Ranunculus ficaria* Banks et Sol.
- **Common name**: Buttercup, Lesser Celandine
- **Family name**: Ranunculaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Rhizomes, flowering stems, and leaves.
- **Chemical constituents**: Protoanemonin, anemonin samine, saponin (ficarin), tannins, vitamin C and aromatic oil.
- **Pharmacological action**: The plant is sedative, antiphlogistic, astringent and anti-scurvy. It was previously used to cure diseases resulting from vitamin C deficiency. At present, it is externally used as an ointment for haemorrhoids and bleeding.
- **Other uses**: The early-emerged leaves and upper young and small parts are non-toxic and can be eaten like spinach. The plant is a wild flower.
- **Caution**: The toxic protoanemonin is present in the fresh herb. Protoanemonin is converted into a non-toxic anemonin on drying. The plant is poisonous; the root, tubers and mature leaves are all toxic and should never be internally taken. Animals avoid the plant, and even carrying the plant may cause dermatitis. It causes rashes, sores and allergic reactions to the digestive system. In humans, it causes burns to the mouth and throat, muscle ailments and diarrhoea. The ingestion of the plant may cause some minor symptoms such as rashes, vomiting or diarrhoea, though small amounts may not cause any symptoms at all. Exposure to juice or sap from plants may produce a skin rash or irritation. Skin wounds from some of these plants can be extremely painful, causing large blisters and burning of the skin.

- **Arabic name**: Hoothan, Shaqshaqiq
- **Scientific name**: *Ranunculus millefolius* Banks et Sol.
- **Common name**: Buttercup
- **Family name**: Ranunculaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant.
- **Chemical constituents**: Anemonin and anemonol.
- **Pharmacological action**: The plant treats whooping cough, spasms, urinary tract problems, rheumatism, and haemorrhoids, and kills scroll bacteria.
- **Other uses**: A wild flower.
- **Caution**: Toxicity symptoms include severe blistering of the mucus membranes and gastrointestinal tract, burns in the mouth and throat, muscle ailments and diarrhoea. Ingesting the plant may cause some minor symptoms including rashes, vomiting or diarrhoea. However, eating small amounts may not cause any symptoms. Exposure to juice or sap from plants may produce skin rashes or irritation. Skin wounds can be extremely painful, causing large blisters and burning of the skin.



Other *Ranunculus* species

- **Arabic name**: Fujaileh, Fijl Al-Hussan, Fijil Barri, Fijil Har, Fijil Al-Khail, Khardal Al-Alman
- **Scientific name**: *Raphanus raphanistrum* L.
- **Common name**: Horseradish, Wild Radish, Jointed Charlock
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Fresh root, seeds' oil, leaves, flowers, pods and seeds.
- **Chemical constituents**: Mustard oil, vitamin C, cardio-active glucosides, ascorbic acid, folic acid, potassium, vitamin B_6, riboflavin, magnesium, copper, calcium, triterpenes, alkaloids, flavonoids, tannins, saponin, coumarins, isothiocyanates, methyl-thio-alkyl isothiocyanates, aliphatic hydrocarbons and some other volatile substances are present. Seeds contain several minerals, amino acids, carbohydrates and a raphanin.
- **Pharmacological action**: It is an antioxidant, appetizer and a hepatoprotective plant. It is used for diseases of the respiratory and digestive organs, muscular pains, jaundice, piles, urinary disorders, weight loss, cancer, leucoderma, skin disorders, kidney disorders, insect bites, fever, bronchitis, congestion, asthma, and liver and gallbladder diseases, and acts as an anti-rheumatic. It is used as a mouth and breath freshener, a laxative, and regulates the metabolism and improves blood circulation. It is a good treatment for headaches, acidity, constipation, nausea, obesity, sore throats, whooping cough, gastric problems, gallbladder stones, and

dyspepsia. In addition, it has anti-microbial effects and cures joints disorders. The plant is internally used in the form of a powder or drink, or as a bandage for rheumatism pains.

- **Other uses**: Young leaves are used raw or cooked. They have a somewhat hot taste. The leaves can be finely cut and added to salads or used as a potherb. The seeds are also eaten raw or cooked and have a very pungent flavour, and they can be ground into a powder and made into a paste as an excellent substitute for mustard. The sprouted seeds have a somewhat hot and spicy flavour, and are a tasty addition to salads. Raw flowers are also a nice addition to salads. The flower buds are used as a broccoli substitute. Young seedpods are used raw, and an edible oil is obtained from the seeds. The other parts of the radish that are consumed are the leaves, flowers, pods and seeds.
- **Caution**: The seeds are somewhat poisonous, leading to effects on the digestive system.

The cultivated variety

- **Arabic name**: Blaiha, Blaiha Arabiya, Khuzam, Hasadi
- **Scientific name**: *Reseda arabica* Boiss
- **Common name**: Mignonette
- **Family name**: Resedaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Aerial parts, flowers, and seeds.
- **Chemical constituents**: Flavonol glycosides, including kaempferol 3,7-di-O-α-L-rhamnopyranoside, isorhamnetin 3,7-di-O-α-L-rhamnopyranoside, kaempferol 3-O-β-D-glucopyranoside-7-O-α-L-rhamnopyranoside, isorhamnetin 3-O-β-D-glucopyranoside-7-O-α-L-rhamnopyranoside, and Kaempferol 3-O-β-xylopyranosyl-(1'''→2'')-O-α-L-rhamnopyranoside-7-O-α-L-rhamnopyranoside.
- **Pharmacological action**: *Reseda* species possess anti-inflammatory, antioxidant, antibacterial and antimicrobial properties. In folk medicine, *R. arabica* seeds and flowers are used for diarrhoea and intestinal pains.
- **Other uses**: A wild flower plant.
- **Caution**: No reports.

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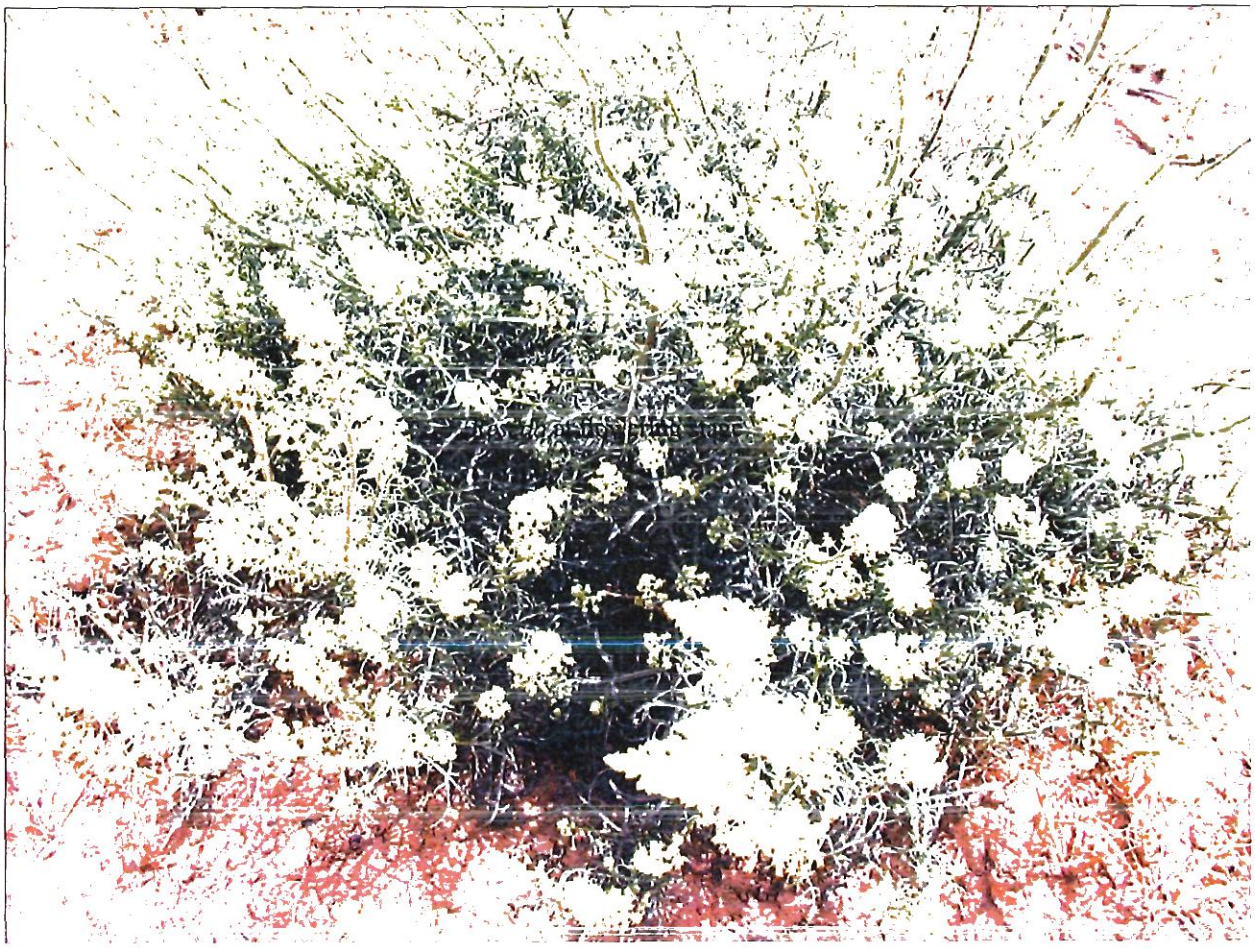
Reseda arabica

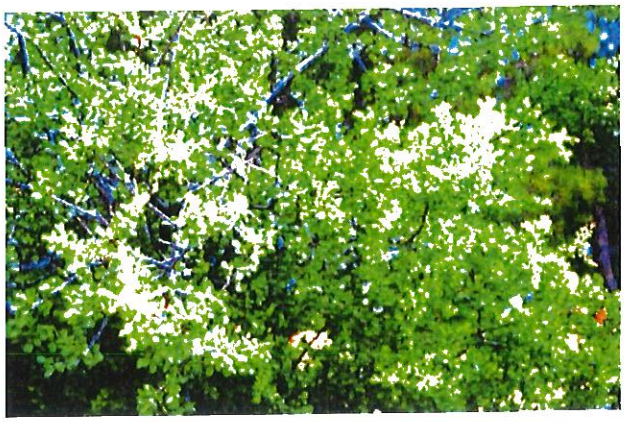
- **Arabic name**: Khuzam, Hasadi
- **Scientific name**: *Reseda lutea* L.
- **Common name**: Yellow Mignonette, Wild Mignonette
- **Family name**: Resedaceae
- **Growth habit**: Herb
- **Life cycle**: Annual or Biennial
- **Part/s used**: Flower tops, seeds, and all plant parts.
- **Chemical constituents**: Scopnarine, sparteine, luteolin, alkaloids, polyphenols, phenyl-□-naphthylamine, flavonoids, luteanine, flavonol glycosides, luteoside, fatty oil, rhodoxanthin, senfol glycoside, pigments and fatty oil.
- **Pharmacological action**: The plant is diuretic, diaphoretic, digestive, tranquillizer, anthelmintic, tonic, a mild narcotic, cathartic, soporific, and emetic. The volatile oil is used in herbal medicine for allergy and eczema. The powdered seeds are a mild purgative and the plant decoction is a remedy for dropsy, gout and rheumatism. Ashes cure dropsy and other diseases.
  The seeds were previously used in a medicated plaster for broken limbs and the plant's decoction as a remedy for hydrophobia. The seeds and flowers are purgative, diuretic and good for sciatica. A flower infusion is good for curing albuminuria, and the tips are used with mustard for dropsy. The plant is a strong narcotic and sedative, and is used in a treatment for bruises and as a poultice on wounds and snake bites or insect stings. It was recommended for use against the plague. A yellow dye is obtained from *R. luteola*.
  In folk medicine, an infusion of *R. luteola* is used to treat gastrointestinal disorders, and the essential oil of *R. odorata* is used in perfumes.
- **Other uses**: An excellent ink can be obtained from the plant, which is a source of dye in the carpet and rug industries. It is also an important plant in animal husbandry, a stock food source and used in honey production. The leaves of certain *Reseda* species are edible. The plant is a wild flower and weed.
- **Caution**: No reports.



- **Arabic name**: Showla, Thniban, Danban, Dayl Al Kharouf
- **Scientific name**: *Reseda muricata* C. Presl
- **Common name**: Mignonette
- **Family name**: Resedaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial, biennial and in some regions only an annual herb.
- **Part/s used**: Leaves and fruits.
- **Chemical constituents**: Flavonoids and five phenolic acids, 3-O-beta-D-glucopyranosyl-(1'''-->2'')-O-alpha-L-rhamnopyranoside 7-O-beta-D-glucopyranoside, kaempferol 3-O-beta-D-glucopyranosyl-(1'''->2'')-O-alpha-L rhamnopyranoside 7-O-beta-D-(6''''-O-E-coumarylglucopyranoside), flavonoid trioxide and its coumaryl ester, protein, amino acids, glucosinolates, and alkaloids.
- **Pharmacological action**: The plant is an anti-inflammatory and antimicrobial. In folk medicine the plant's extract is used in external treatments for haemorrhoids, stomach aches and diarrhoea. Its fruits are a menstruation tonic. *Reseda muricata* extracts are used in external treatments for haemorrhoids, stomach and intestinal pains, and diarrhoea.
- **Other uses**: It is a colonizer or slope binder, and is also used for environmental consolidation. *Reseda* grows as a groundcover and as grouped planting, and is also grown for natural garden themes and in parks. It is regarded as a wild flower.
- **Caution**: No reports.

- **Arabic name**: Zaglilos Najmi, Ibrat Al-Ajooz, Sure
- **Scientific name**: *Rhagadiolus stellatus* (L.) Gaertn.
- **Common name**: Star Hawkbit
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Aerial parts
- **Chemical constituents**: Glycoside, flavonoid, phenolic compounds, volatile oil, saponin, phytosterols and tannin. Phenols include kaempferol 3-O-?-glucoside, kaempferol 3-O-?-rutinoside (nicotiflorin), quercetin 3-O-?-glucoside, luteolin, chlorogenic acid, 3,5-dicaffeoylquinic acid, hexanoic acid, vanillin, nonanoic acid, 9-Oxo-nonanoic acid, octanedioic acid, nonanedioic acid, tetradecanoic acid (myristic), alcohol oleyl, methyl-tetradecanoic acid, hexadecanoic acid (palmitic), heptadecanoic acid (margaric), 9,12-octadecadienoic acid, stearic acid (octadecanoic acid), eicosanoic acid (arachidic), heneicosanoic acid, tricosanoic acid (lignoceric), campesterol, stigmasterol, sitosterol and quercetin as the main chemical in leaves after flavonoids' hydration.
- **Pharmacological action**: The plant is antibacterial and its extract is antioxidant. It is used in traditional medicine for psoriasis and against many infectious diseases.
- **Other uses**: It is a wild vegetable plant used in food. It can also be utilized as a natural food preservative, a nutritional supplement, and in the pharmaceutical industry. It is edible in salads or vegetable pies. It is regarded as a wild flower.
- **Caution**: No reports.

- **Arabic name**: Suweed Falasteiny
- **Scientific name**: *Rhamnus palaestina* Boiss.
- **Common name**: Buckthorn
- **Family name**: Rhamnaceae
- **Growth habit**: Tree
- **Life cycle**: Perennial
- **Part/s used**: Fruits, juice, and fresh bark.
- **Chemical constituents**: Cascarosides, hydroxyanthraquinone glycosides (3–8%) consisting of monoglycosides and diglycosides of frangula emodin, with the diglycosides, glucofrangulins A and B, being the major compounds. The major monoglucosides are frangulins A and B. Other anthranoid derivatives present include emodin anthrone-6-O-rhamnoside (franguloside), as well as physcion and chrysophanol in glycosidic and aglycone forms. In the fresh bark, anthraquinones are not present, but exist as their reduced anthrone and dianthrone glycosides. Buckthorn berry juice contains rhamnocathartin, rhamnin, a peculiar tannic acid, sugar and gum.
- **Pharmacological action**: It is used for occasional constipation. It is used as a single dose for total intestinal evacuation before X-rays and other diagnostic examinations when electrolyte solutions alone are insufficient for adequate evacuation or the use of electrolyte solutions is not possible. It is a laxative and cathartic. The fruit juice is boiled with honey as an aperient drink. The flesh of birds that have eaten the berries is said to be purgative.
- **Other uses**: It is regarded as a medicine more fit for animals than human beings, and it is now employed almost exclusively in veterinary practice, and is commonly prescribed for dogs.
- **Caution**: No reports.



Rhamnus plant

- **Arabic name**: Al-Rand, Rawond, Reebas, Utrufan, Kahraman
- **Scientific name**: *Rheum palaestinum* Feinbr.
- **Common name**: Palestinian Rhubarb
- **Family name**: Polygonaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Rhizomes of 5-7 years old.
- **Chemical constituents**: Anthraquinone glycosides, tannin, glucosamine, gallic acid, lectin, aloe-emodin and rhein. The active ingredient contains 10% kenons and tannins, oxalic acid, calcium or potassium oxalate. Hydroxyanthracene derivatives (2.2%-6%) include anthraquinones, rhein, emodin, dianthrones, sennosides A, B and palmidin C in *R. officinale*.
- **Pharmacological action**: The plant is astringent, and is used for diarrhoea, chronic constipation and as a laxative in large doses. It is useful for digestion and as an appetizer, diuretic, emmenagogue and a general tonic. It is one of the components of herbal tea and digestive powders. Its decoction and the root tincture are stomachic. The plant's extract is an appetizer and cures gastritis and disorders. Mild doses (5-10 drops) of the tincture are astringent and are used for diarrhoea, and higher doses (1 ml) are stimulants and a liver activator. The root is used for liver ailments and jaundice.
- **Other uses**: Stems and leaf petioles are edible raw or after being boiled.
- **Caution**: For all *Rheum* species, the emodin and aloe-emodin amounts should be kept under control. All who suffer from kidney stones and gout are advised not to use this plant repeatedly. The leaves should not be used either since they are toxic. The plant should be avoided during pregnancy since it causes severe diarrhoea, and toxication causes abdominal ailments, nausea, vomiting, weakness and dizziness. It extends blood coagulation, and causes abortion at early stages of pregnancy, jaundice, lymphomas and exhaustion. Exposure to plant juice or sap may produce a skin rash or irritation. Skin wounds can be extremely painful, causing large blisters and burning of the skin. The juice and sap contain microscopic oxalate crystals. These are shaped like tiny needles. Chewing these plants may result in pain in and irritation of the mouth, lips and tongue. In severe cases, the swelling of the throat may cause breathing difficulties. These plants usually cause problems in older children with a full set of teeth. Toxicity symptoms include possible haematemesis, oliguria, acetonuria, albuminuria, hypokalemia, convulsions and hypocalcaemia.

- **Arabic name**: Summaq
- **Scientific name**: *Rhus coriaria* L.
- **Common name**: Sumach, Sumac
- **Family name**: Anacardiaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Leaves and fruits.
- **Chemical constituents**: The leaves are a source of tannins (25-33% of dry weight), and are composed of pyrogallols and gallic acid, glucose, green dyes, inorganic salts (chrysanthemin, myrtillin and delphinidin) and organic acids: citric, succinic, maleic, tartaric, fumaric and ascorbic. In the pericarp oil, limonene, nonanal and (Z)-2-decenal are present, while major components of the leaf oil include □-caryophyllene and a sesquiterpene hydrocarbon tentatively identified as patchoulane. The major constituents of the branch/bark oil are □-caryophyllene and cembrene. The leaves and fruits contain flavonoids, gallotannins and volatile oil, while the pericarp gave anthocyanin and fixed oil. The dry fruits' main constituents are terpene hydrocarbons (i.e. □-pinene, □-caryophyllene and cembrene), oxygenated terpenes (i.e. □-terpineol, carvacrol and □-caryophyllene alcohol) and farnesyl acetone. Flavonoids, tannic acid, and polyphenols are also present. The seed oil is constituted of ash and phospholipids; the lipids are relatively highly unsaturated palmitic, stearic, oleic, and linoleic acids, the glyceride types, and the phospholipids. Recently it was found that *R. coriaria* contains high levels of phenolic mixtures and it was confirmed to be rich in oleic acid, vitamins, minerals and organic acids.

  It has been documented that the plant contains flavones (including myricetin, quercetin and kaempferol), nitrates and nitrite elements, moisture, oil, protein, fibre and ash. The main constituents of sumac oil have been identified as maleic, palmitic, stearic, oleic and linoleic acids, while potassium, phosphorus, bromine, silicon, aluminium, sulfur, chlorine, copper, titanium, calcium, iron, lead, manganese, zinc, strontium, magnesium, lithium, barium, chromium, nitrogen and vanadium are the minerals that can be found in this plant. Sumac contains phenolic compounds including hydrolysable tannins and anthocyanins. There is a suggestion that the tart and caustic flavour can be traced to indigenous organic acids (particularly malic acid) and tannins. A substantial number of compounds have been recognized in various segments of the sumac plant. Among these are phenolics, organic acids, fibre, proteins, fatty acids, volatile oils, vitamins and minerals.

The phenolic compounds in sumac contain gallic acid, vanillic acid, 4-hydroxyl benzoic acid, synergic acid and caffeic acid. The sumac fruit yielded a variety of elements including alkaloids, glycosides, phenol and terpenoids. Phytochemical vetting revealed the presence of tannin, phenol, anthraquinone and saponin in *R. coriaria*; the xanthones were characterized as 2,3-dihydroxy-7-methyl xanthone, 2,3,6-trihydroxy-7-hydroxymethylene xanthone-1-carboxylic acid, 2-methoxy-4-hydroxy-7-methyl-3-O-β-D-glucopyranosyl xanthone-1,8-dicarboxylic acid, 2-hydroxy-7-hydroxymethylene xanthone-1,8-dicarboxylic acid and 3-O-β-D-glucopyranosyl-(2'→3'')-3''-O-stigmast-5-ene. The steroidal glucoside β-sitosterol-β-D-glucoside is also present, as well as 1-methoxy-4-hydroxy-methylene naphthalene (coriarianaphthyl ether), 7-methoxy-5-methyl benzene-4-al-1-oic acid (coriariaoic acid) and 1-dodecanoxy-2, 8-dihydroxy-anthracene-15-oic acid (coriarianthracenyl ester). These are in addition to the previously identified phyto-33 constituents n-tetracosane, n-pentacosane, anise alcohol, p-hydroxybenzyl alcohol, and methyl lawsone and 2-hydroxymethylene naphthoquinone. The fruit of *R. coriaria* has been ascertained to contain fatty acids (particularly palmitic acid), eight indispensable amino acids (leucine, isoleucine, lysine, methionine, threonine, phenylalanine, valine and tryptophan), and four organic acids (malic acid, citric acid, tartaric acid and fumaric acid).

❖ **Pharmacological action**: Sumac is regarded as a very important source of tannin, which is used as an astringent and anti-inflammatory. It is also used in a solution or an ointment for burns, ulcers, skin eruptions, cholesterol, and diarrhoea and as an antiseptic and diaphoretic. It is internally used in cases of digestive system inflammation, and its solutions are given at 5-10% in alkaloid and heavy metal toxication. A tannin solution is usually used at a level of 1-2% in water or glycerin as a gargle for pharyngitis. Sumac is used as a digestive, as well as for haemorrhoids and rheumatism. The extract is antioxidant, antibacterial, slightly aromatic, sour, fruity and astringent. The berries are diuretic, and are used for bowel complaints and to alleviate fever. A sour fruit drink relieves stomach upsets and has antibacterial and antifungal properties.

The wide-ranging therapeutic benefits associated with *R. coriaria* include its impressive antioxidant, antiphlogistic, chondroprotective and anti-ischemic activities, which are attributed to the phenolic compounds present in this plant. Some investigations have made a connection between the build-up of ROS (reactive oxygen species) in the human body and a variety of disorders that include atherosclerosis, insulin resistance, type II diabetes, cardiovascular diseases, osteoarthritis, hepatocytes toxicity, DNA injuries, the synthesis and capping of silver nanoparticles, cancer, ischemia, vasodilatation, vascular smooth muscle cell migration inhibition, hypoglycaemia, and xanthine oxidase inhibition. It has hepatoprotective and non-mutagenic properties. Previous studies imply that *R. coriaria* has the potential to play an influential role in the treatment of the above-mentioned ailments.

The traditional utilization of sumac to alleviate the effects of diarrhoea, ulcers, haemorrhoids, liver ailments, insect bites, aches, dysentery, diuresis, haemorrhages, haematemesis, haemoptysis, ophthalmia, conjunctivitis, leucorrhoea and stomach function deficiencies is well-established. Specialists in the traditional medicine domain have also harnessed the properties of sumac to lower cholesterol levels, nurse sore throats and induce abortion. There have also been reports suggesting its effective usage for the tending of lesions and the extermination of microorganisms or the stymieing of their development. Various sections of the plant are utilized in a wide range of traditional medicine concoctions. For instance, its bark (in a powdered form) is utilized for the cleansing of teeth, the treatment of early-stage viral eye infections and for quick relief from nose bleeds (epistaxis). This is achieved by bruising bark in water prior to placing it on the patient's forehead. For relief from diarrhoea, a boiled egg is dusted with the plant's powdered fruit and consumed. The thrice-daily oral administration of a decoction of fruits from this plant has been observed to be effective in the treatment of liver ailments, diarrhoea and failings in the urinary system. The administration of this decoction is continued until recovery is realized.

❖ **Other uses**: The seeds and seed coats are used as a spice and for seasoning. Sumac is used widely in cooking. It is a major souring agent, and is rubbed onto kebabs before grilling, and may also be used in this way with fish or chicken. It is astringent. The juice extracted from sumac is popular in salad dressings and marinades and the powdered form is used in stews, vegetable and chicken casseroles. The seeds of sumac are eaten in sauces with meat, and stop all manner of fluxes of the belly. A mixture of yoghurt and sumac is often served with kebabs. Zaatar is a blend of sumac and thyme used to flavour labni and a cream cheese made from yoghurt. The plant is visited by honey bees.

Extracts from the leaves and fruits are used for the dyeing of wool fabrics in various colours of improved light fastness, and have also been considered for use in the manufacture of carpets.

❖ **Caution**: Sumac interacts with heavy metals and may cause toxication if the plant, fruits, or fruits' solution after being cooked is placed and stored in metal (copper or aluminium) containers and used in food preparation. Symptoms include diarrhoea, abdominal pain and vomiting. Ripe fruits are poisonous.

At the fruiting stage

Mature fruit stage

Fruiting twig

- **Arabic name**: Sumaq Thulathi Al-Ajza'i, Jadari
- **Scientific name**: *Rhus tripartita* (Ucria) Grande
- **Common name**: Sumach
- **Family name**: Anacardiaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Bark, leaves, and fruits.
- **Chemical constituents**: Tannin, gallocatechin, quercetin, myricetin, kaempferol-3-O-α-L-rhamnopyranoside, kaempferol-7-O-α-L-rhamnopyranoside, β-sitosterol-3-O-β-glucopyranoside.
- **Pharmacological action**: The bark and leaves are used for gastrointestinal ailments. The infusions of fruits and leaves are used for the same problems and stomach ulcers. A plant decoction sweetened with sugar is an appetizer and muscle stimulant. An alcoholic extract exhibited good antioxidant activity towards DPPH radical and higher anti-malarial activity against both chloroquine-sensitive and chloroquine-resistant strains of *Plasmodium falciparum*, with IC50 values in the range of 3.9 μg/mL. The alcoholic extract also exhibited antimicrobial activity against methicillin-resistant and non-methicillin-resistant *Staphylococcus aureus*.
- **Other uses**: The fruits are edible. It is an endangered forestry plant, and is used in pigments and tanning.
- **Caution**: No reports.

Fruiting stage

Zara (near the Dead Sea)

- **Arabic name**: Kherwe'i
- **Scientific name**: *Ricinus communis* L.
- **Common name**: Castor Bean, Castor Oil Tree, Castor Seed
- **Family name**: Euphorbiaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Oil, leaves, roots, seeds, and latex.
- **Chemical constituents**: The seeds contain a fixed oil called castor bean oil, which represents 56% of the seeds' weight and is made from glyceride acids, among which is ricinoleic acid. It contains 26% protein and the rest is made from other materials such as the toxic ricin and ricinine. It also contains other toxic materials. Extracted seeds are of no value since they contain the toxic ricin. The seeds contain the lipase enzyme and other materials including cynarine, palmatine, butin, ricinoleic acid and gum.
- **Pharmacological action**: Castor bean is anti-conceptive and emetic, and is used for catarrhal chest disorders, haemorrhoids, and as an insecticide.
  Its oil causes uterus constrictions and thus eases birth, and is widely used in ointments, against wens, as an emollient and galactagogue, and against warts, alopecia, dry hair and chest catarrh in a mixture with turpentine. It is also used for burns, rheumatism, paralysis, wounds, asthma, coughs and toxification with phosphorus salts. It is a mild purgative and is widely used in tannery work. It has an anthelmintic action and is effective against skin diseases. It is also an expectorant, purgative, sedative, analgesic, lubricant, illuminant, narcotic, and laxative, and is used for blisters, halitosis, ophthalmia, toothache, and ulcers. The seeds are used for wart and freckles, as a hair tonic for lubrication, for candle making and illumination, and in cosmetics. The fruit juice has a cooling effect. Leaf poultices are useful for boils and swelling. *Ricinus communis* extract showed a higher hair growth stimulatory effect in mice. The seed oil is used in paint and soap products, as a medicine, and for ornaments.
  The leaves are used for hair growth, as a remedy for epilepsy and clysters, as a pain killer for bone problems, as a cathartic, and are useful against bronchial pneumonia, abscesses, bunions, cancer, conjunctivitis, dermatitis, gout, warts, headaches, lumbago, rheumatism, and sciatica. Castor bean is an emmenagogue and lactagogue, and clears blackheads and dandruff.

In folk medicine, castor bean oil is regarded as one of the most valuable laxatives, and helps to get rid of dandruff, helps with constipation, cures skin inflammations, abrasions, fungal-infected finger and toenails, and is rubbed or massaged gently on body parts to remove aches, particularly for backache (it usually takes effect in about four to six hours). It also helps with multiple sclerosis and migraine headaches. The oil is a natural aperient. It softens and protects the skin, is a laxative for pregnant women, nursing mothers and children, softens and nourishes hair, and elongates eyelashes. It also removes freckles and skin spots. It is useful in sterile cases of female breast pains.

- **Other uses**: The oil is used in industry as a lubricant, as well as in tanning and as a leather preservative. It may be used in the soap, plastic and nylon industries. Biodiesel is manufactured using oil seeds, and ricin is used in biological weapons, and has been part of the chemical and biological weapons programs in different countries. It is also used in cosmetic creams. The oil-cake is used as a fertilizer and fuel. The plant is regarded as a wild flower.
- **Caution**: The plant is poisonous. The toxicity symptoms that appear include abdominal pains, the cessation of rumination, anorexia, feebleness, diarrhoea, weakness, bleeding, inflamed stomach, perspiration and trembling in horses due to heat constrictions. In humans, the symptoms include burning in the mouth and throat, low blood pressure, inflammations, bleeding in the mucus membrane of the digestive tracts, swellings, and liver and kidney edema. Ricin (toxalbumin) is not present in the oil (water-soluble). Ingestion of the nuts can be fatal; one to five nuts can kill a child. Generally, two seeds, if consumed, can cause death. Ingestion of the plant, especially in large amounts, is expected to have effects on major body organs such as the liver, heart and kidneys.

The whole plant

- **Arabic name**: Shabath Bari, Shumra
- **Scientific name**: *Ridolfia segetum* (L.) Moris.
- **Common name**: Ridolfia, Dill
- **Family name**: Umbelliferae / Apiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves, young shoots, and oil.
- **Chemical constituents**: Essential oil, the main compounds of which are α-phellandrene (53.0–63.3%), terpinolene (8.6-11.9%), ß-phellandrene (5.5–6.0%), and dillapiole (1.9–8.0%).
- **Pharmacological action**: The oil demonstrated high antioxidant capacity at 0.05–0.20 µL/mL concentrations and significantly inhibited nitric oxide production without cytotoxicity in concentrations of up to 1.25 µL/mL. The oil also has antiphlogistic activity in doses without cytotoxicity on mammalian cells. It has antioxidant potential and a pleasant smell, and could be important in the development of new phytopharmaceuticals.
- **Other uses**: The leaves and young shoots are edible raw or used in soup flavouring. The plants showed a high essential oil yield, which confers a potential industrial interest. The high content of α-phellandrene (53.0–63.3%) makes it an important natural source of this compound.
- **Caution**: No reports.

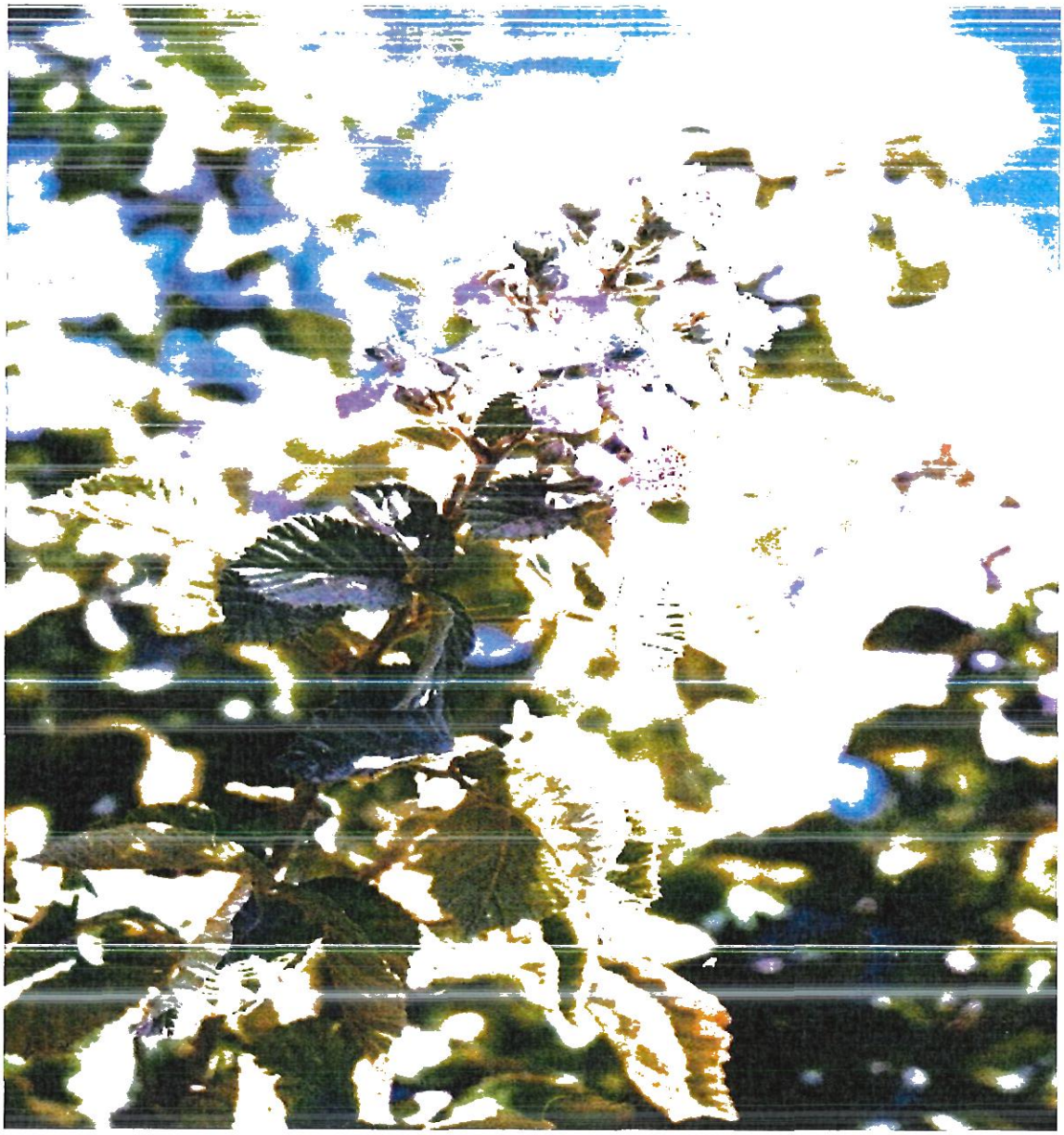
The plant spread in the field

- **Arabic name**: Khushkhash Banafsajy, Nghemah
- **Scientific name**: *Roemeria hybrida* (L.) DC.
- **Common name**: Violet Horned Poppy, Roemeria
- **Family name**: Papaveraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant, especially the fruit and seeds.
- **Chemical constituents**: Proaporphine-tryptamine N-oxides, (−)-roehybridine α-*N*-oxide and (−)-roehybramine β-N-oxide. Beta-carboline alkaloids (papaveraceae) include roecarboline and norroecarboline.
- **Pharmacological action**: An overdose on the plant causes a narcotic effect (especially from the fruit) and the depression of parasympathetic systems, and the seeds cause stupor and comas.
- **Other uses**: A wild flower.
- **Caution**: The plant causes allergic reactions. Death is caused due to respiratory failure if large doses are ingested. The beta-carboline alkaloids are of concern.

- **Arabic name**: Toot al-Ullaiq, Ullaiq
- **Scientific name**: *Rubus fruticosus* Borkh.
- **Common name**: Blackberry, Bramble
- **Family name**: Rosaceae
- **Growth habit**: Climber Shrub
- **Life cycle**: Perennial
- **Part/s used**: Leaves, flowering buds before opening, berry fruits, roots, and flowers once opened.
- **Chemical constituents**: Leaves contain tannin, tannic acid, flavonoids, gallic acid, other organic acids, sugars, vitamin C, methyl salicylate, glycosides, pectin, and polypeptides. Fruits contain organic acids (citric and maleic), mucilage, pectins, anthocyanins, vitamins A, B, C and E, cellulose and mineral elements.
- **Pharmacological action**: The plant is astringent, and is used for diarrhoea and wound healing. It makes an excellent tea. The leaves were formerly used against diarrhoea and bleeding, and as an anti-diabetic, antiseptic, antifungal, diuretic, and stimulant. Their decoction or infusion is effective for intestinal inflammations, stomach disorders, as a gargle for thrush, colds and stomatitis, and as a wash for influenza, coughs, piles, dysentery, anaemia and kidney stones. It is anti-parasitical and antimicrobial, and it cures skin sores, itching, malaria, and dyspepsia. A sweet drink is prepared from the fruits and is used to sweeten bad-tasting drugs and as a laxative. A leaf decoction is used for stomach and intestinal problems and profuse menstruation. Cooked flowers are used for gingivitis and pharyngitis. An injection of macerated fruit is useful for vaginal diseases such as leucorrhoea. The roots are used to dissolve stones, and cooked leaves are used for hair dye. The leaves are a good prescription for vomiting and dizziness in pregnant women. The plant is anti-scurvy, an appetizer, analeptic, diaphoretic, blood cleansing and a stimulant.
- **Other uses**: Fresh ripe fruits are rich in vitamin C and are edible raw or as a jam, syrup, wine or drink. Unripe fruits are used in dough stuffing. The fruits contain vitamin C, organic acids, pectins and sugars. It is a wild flower plant and used by farmers as a border plant.
- **Caution**: Oil toxicity is painful, and causes vomiting and abrasions/injuries to the kidney and liver. Pregnant women must avoid using high doses of the plant's leaves in the early months of pregnancy as it stimulates uterus relaxation.

The plant in natural habitat

Rubus sanguineus Friv.



- **Arabic name**: Toot Al-Ullaiq
- **Scientific name**: *Rubus idaeus* L.
- **Common name**: Raspberry, Red Raspberry
- **Family name**: Rosaceae
- **Growth habit**: Climber shrub
- **Life cycle**: Perennial
- **Part/s used**: Leaves and just opened flowers.
- **Chemical constituents**: Leaves contain polypeptides, flavonoids such as anthocyanins, flavonols, hydroxycinnamic acid derivatives, stilbenoids, flavan 3-ols, ellagic acid derivatives, other phenolic acids, polyphenols, anthocyanins, and ascorbic acid with radical scavenging activity. Kaempferol, quercetin glycosides, ellagic acid and quercetin, anthocyanins, vitamin C and tannins are also present. In addition, it contains raspberry ketone [4-(4-hydroxyphenyl)-2-butanone], ellagitannins and conjugates of ellagic acid and quercetin, and caneberries were high in antioxidant activity and are rich sources of anthocyanins and phenolics. Organic acids and fragarin are present. The fruits contain pectin, sugars, organic acids including citric acid, vitamins A, B, C and E, cellulose and mineral salts.
- **Pharmacological action**: The extract of leaves or fruits is used for skin irritation and inflammation. Raspberry ketone is a major fragrant compound of *Rubus idaeus* fruits and is very popular as a synthetic flavour in food and cosmetics.

  Berries are rich in monomeric and polymeric phenolic compounds, providing protection towards both lipid and protein oxidation. It has antioxidant and anticancer properties, and capsaicin is known to exert anti-

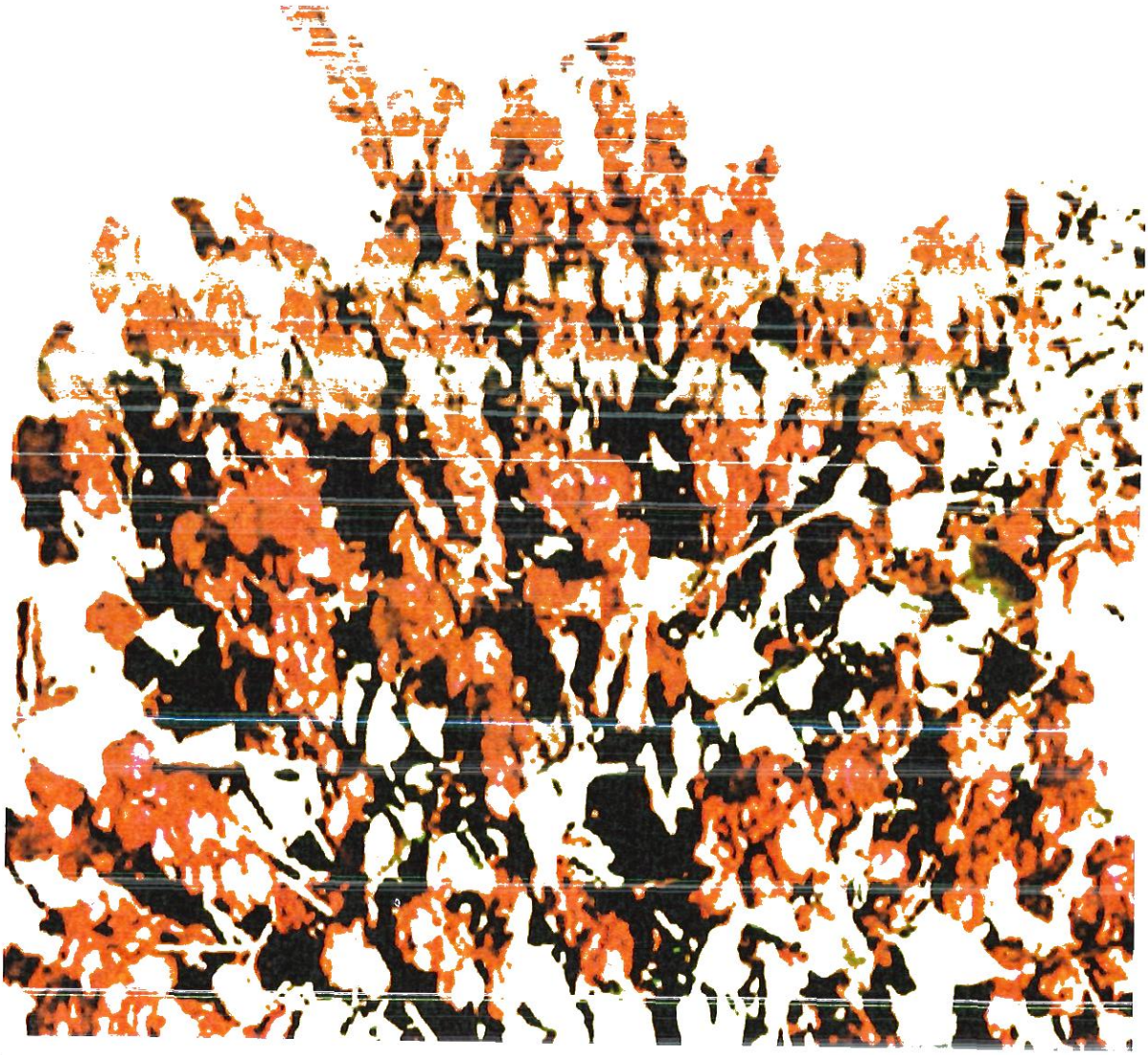
obesity action. Raspberry ketone prevents elevations in body and liver warts in obese mice on a high-fat diet. The plant is used against diarrhoea, as an antioxidant, and heals wounds.

It is an astringent recommended for use in fevers, sores, rotting wounds in the mouth and sexual genital organs, haemorrhoids, urine sands, bleeding and menstruation. It is also used for nausea and vomiting. The leaves are stimulants, astringent, diuretic, expectorant, and alleviate stomach ache. The leaves' infusion is used as a gargle for mouth washing. Fresh or dry leaves are a tea substitute. Fresh fruits contain organic acids, sugars, pectin, and vitamin C, and when sugar is added along with vinegar diluted in water, they can then be used as a gargle for fevers and throat sores, and as an appetizer, summer drink, anti-scurvy, blood purifier, purgative, diaphoretic and stimulant. It is believed that it eases childbirth.

- **Other uses**: Fresh ripe fruits are edible raw or as a jam, and unripe fruits are used in dough stuffing. A tea is also made from the leaves. The plant is a wild flower.
- **Caution**: Pregnant women should avoid using large doses of leaves in the early stages of pregnancy as they stimulate uterus relaxation.

- **Arabic name**: Toot Al-Ullaiq
- **Scientific name**: *Rubus tomentosus* Borkh.
- **Common name**: Blackberry
- **Family name**: Rosaceae
- **Growth habit**: Climber Shrub
- **Life cycle**: Perennial
- **Part/s used**: Fruits, leaves, and flowers.
- **Chemical constituents**: 4-(4-hydroxyphenyl)-butan-2-one, terpenoid, vitamin C, aliphatic and aromatic volatiles.
- **Pharmacological action**: The blackberry leaf is great for treating diarrhoea and healing wounds. It also makes an excellent tea. It is diuretic and used in the treatment of cardiovascular diseases.
- **Other uses**: Fresh ripe fruits are eaten raw or as a jam, and unripe fruits are used in dough stuffing. Volatiles emitted by the plant at different stages of development have biological activities. It is a wild flower plant.
- **Caution**: Pregnant women must avoid high doses of leaves during the early months of pregnancy as they stimulate uterus relaxation.

- **Arabic name**: Humeid, Hammad, Algeid, Humaiz, Himbaz, Hammed
- **Scientific name**: *Rumex acetosa* L.
- **Common name**: Curly Dock, Garden Dock
- **Family name**: Polygonaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, roots, and stems.
- **Chemical constituents**: Potassium oxalates, oxalic acid, iron, chlorophyll, vitamins A and C, anthraquinone, sugar, fatty materials, rumicin alkaloid, quercetin, alkaloids, flavonoids, chrysophanol, immodin, sterols, triterpene, dioxalates, tannins, and ascorbic acid. Roots contain chrysophanic acid and an alkaloid called rumicin.
- **Pharmacological action**: The plant is analeptic, a blood purifier, appetizer, diuretic, emmenagogue, analgesic, laxative, astringent and depurative. It is used for diarrhoea, scurvy, diabetes, haemorrhoids, and paralysis. It is vitaminizing, helpful in treating liver disorders, and cures anaemia, constipation, congestion, tumours, and elephant disease. It is regarded as a liver and cardiac tonic, digestive, and stimulant. It is applied as a poultice for tumours and elephant tumours and is useful for aches. A plant powder cures wounds, different skin sores, internal bleeding in the respiratory tract, paratuberculosis, and digestive and urinary system ailments resulting from internal inflammations, as well as uterine bleeding and toothache. Soft leaves and roots stimulate gland secretions. They are useful for duodenal ulcer, nausea, and haemorrhoids. The roots can be soaked in vinegar and the lotion treats ringworm. The leaves are made into a poultice for treating hives, rashes and itches and are also used to treat mange in animals and saddle sores on the animal's back.
- **Other uses**: The leaves and young shoots are used raw or cooked as a vegetable with onions and sumac, and the paste is used like spinach or in dough stuffing. It provides a flavouring for soups, butter and omelettes. It has previously been used as a source of black dye for woollens and an ink stain remover. At present it is used in salads, soups, sauces and as a meat tenderizer. It is also used in stews with spinach, in a drink with a decoction of the calyx plant, and in sour soups and spiced pickles.
- **Caution**: It is not advised for use by patients of different nervous diseases such as arthritis, gout, kidney colic and gastritis because of the abundance of oxalates. It is harmful to kidney patients and those who suffer from kidney stones. It should never be used by patients of asthma, chest ailments, diarrhoea, and rheumatism. It has been mentioned that it causes death to cattle. In small quantities sorrel is harmless, but in large quantities it can be fatal.



- **Arabic name:** Humeid, Hammad Algeid
- **Scientific name**: *Rumex crispus* L.
- **Common name:** Yellow Dock Root, Curly Dock, Garden Dock, Yellow Dock, Curled Dock
- **Family name**: Polygonaceae
- **Growth habit**: Herb
- ***Life cycle***: *Annual*
- **Part/s used**: Leaves, roots, and seeds.
- **Chemical constituents**: Oxalic acid, and the roots contain a small amount (4%) of anthraquinone glycosides, among which are nepodin, emodin, chrysophanol and anthrone. It also contains tannins, oxalates, volatile oils, vitamins A, B, C, proteins, mineral salts (iron, potassium, and calcium), tartaric acid, anthra-1,5-dihydroxyanthraquinones, alkaloids, saponins, alpha-picoline, an anthrone in the roots, and a high oxalic acid/calcium ratio. The roots contain chrysophanic acid, the alkaloid rumicin, chrysophanol, parietin and nepodin.
- **Pharmacological action**: It is a gentle purgative and diuretic, cleans the blood, and treats scurvy, dysentery, anaemia and mould. It is a cholagogue and a cure for chronic skin diseases, especially psoriasis. It is also useful for diabetes, obstructive jaundice, and constipation. It has an antifungal effect against athlete's foot, eczema, dandruff, ringworm and vitiligo, as well as against *Malassezia furfur* and *Trichophyton mentagrophytes*. Green juice contains a large number of components for nourishing and circulating the blood. The plant is a detoxicant and antioxidant, is used as an antidote for arsenic and quicksilver toxicity, and is restorative, tonic and effective for adult diseases. It is used for the treatment of dermatophytosis and has antimicrobial activities. It is a gentle laxative, astringent and alterative. It has effects on the bowel and is used in ointments for skin irritations.

  A plant extract is included in cosmetics for the prevention and/or treatment of miasma, freckles, age spots (lentigo senilis) and photodamaged skin.

A leaves poultice is used for treating hives, rashes and itches and for treating mange in animals and saddle sores on the animal's back.

The roots are helpful for treating liver disorders and irritation of the skin and throat. The roots and leaves are alterative.

- **Other uses**: It is an edible and common species. It can be used as a wild leaf vegetable; the young leaves should be boiled in several changes of water to remove as much of the oxalic acid in the leaves as possible. Dock leaves are an excellent source of vitamin A and protein, and are rich in iron and potassium. The plant is a source of black dye for woollens and also an ink stain remover. It is used in salads, soups, as a meat tenderizer, and is a laxative and tonic. The leaves and young shoots are edible raw, cooked or used in dough stuffing. The plant is used for flavouring soups, butter and omelettes.

  A composition containing plant extract acts as a fungicide that is effective in eradicating the causative agent of powdery mildew on crops such as *Sphaerotheca fuliginea* and *Blumeria graminis*, and is more active than the fungicide polyoxin B against *Sphaerotheca fuliginea* on cucumber plants.

- **Caution**: The plant may cause allergic reactions for sensitive individuals, and its derivatives are not recommended for humans suffering from kidney problems, hypocalcaemia, elevated uremia, or liver damage. The ingestion of its foliage or seeds has been responsible for several gastric disturbances and dermatitis in cattle and serious toxicity in poultry. Leaves contain soluble oxalates that can be toxic if consumed in large quantities or if not cooked properly. Curly dock leaves are somewhat tart due to the presence of high levels of oxalic acid, and although quite palatable, this plant should only be consumed in moderation as it can irritate the urinary tract and increase the risk of developing kidney stones.

  The plant may cause toxicity, symptoms of which include vomiting, diarrhoea, unconsciousness, deep coma, and death to sheep and cattle after being weakened. Other symptoms are quivering of the head and neck, salivation, falling down and dyspnoea. The plant causes blood calcium deficiency, leading to weak bones and death. It is not allowed to be taken during pregnancy.

- **Arabic name**: Humeid
- **Scientific name**: *Rumex cyprius* Murb.
- **Common name**: Sorrel
- **Family name:** Polygonaceae
- **Growth habit**: Herb
- **Life cycle:** Perennial
- **Part/s used**: Leaves, stem, and root.
- **Chemical constituents**: Vitamins C and A, chrysophanic acid and rumicin alkaloid.
- **Pharmacological action**: The plant is a laxative, astringent, alterative, and mild tonic. It has an action on the bowels. It is used in ointments for skin irritations, liver disorders and ringworm. A poultice of leaves treats hives, rashes and itches and is also used on animals to treat mange and saddle sores on pack animals.
- **Other uses**: The leaves and young shoots are edible raw, and can be used in dough stuffing or as a vegetable and cooked with onion and sumac like spinach. The plant is well known as a kitchen herb, and as a flavouring for soups, butter and omelettes.
- **Caution**: The plant may cause toxicity because of the high percentages of dissolved oxalates (up to 60% of the fresh plant's weight). It causes animal disturbances, dyspnoea, a lack of muscle control, falling to the ground, an inability to stand up, then death. The plant is harmful to kidney patients.

Flowering plants

- **Arabic name**: Humeid Musanan
- **Scientific name**: *Rumex dentatus* L.
- **Common name**: Sour Dock
- **Family name**: Polygonaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves and roots.
- **Chemical constituents**: An anthraquinone derivative, phosphoenolpyruvate carboxylase, lipids including phytosterols, phytosterol esters, free fatty acids, myricyl alcohol, □-D-glucoside of □-sitosterol, free □-sitosterol, emodin, aloe-emodin, quercetin, vitamins A and C and rumacin are present. The roots contain chrysarobin, chrysophanic acid, anthraquinone derivatives and an alkaloid called rumicin.
- **Pharmacological action**: The plant is purgative, stimulates secretions, and is anti-diabetic and diuretic. It is astringent, and is used for skin diseases, liver disorders, and ringworm. The leaves are made into poultices for treating hives, rashes and itches and are also used on animals to treat mange and saddle sores on pack animals.
- **Other uses**: The leaves and young shoots are eaten raw, cooked as vegetables with olive oil, onion and sumac, or used in dough stuffing, and can also be used as a flavouring for soups, butter and omelettes. It is treated as a vegetable like spinach and used in the dye industry. It is a wild flower and a common weed.
- **Caution**: The plant is poisonous to chickens and cows if ingested in large quantities. This results in dermatitis and intestinal ailments. It may cause allergic reactions for sensitive individuals, and its derivatives are not recommended for humans suffering from kidney problems. It may cause animal toxicity because of the high percentages of dissolved oxalates (up to 60% of the fresh plant's weight). It causes animal disturbances, anorexia, uncontrolled muscles, falling down, an inability to stand up from the ground, and death.

The plant at the seeding stage

- **Arabic name**: Humeid, Hammad Barri
- **Scientific name**: *Rumex obtusifolius* L.
- **Common name:** Curly Dock, Garden Dock
- **Family name**: Polygonaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves and roots.
- **Chemical constituents**: Vitamins C and A. Roots contain chrysophanic acid, an alkaloid called rumicin, the glycosides emodin glycoside and emodin methyl ether, an iron-phosphorus compound, tanopid and quercetin.
- **Pharmacological action**: The plant is astringent, anti-anaemia, anti-diarrhoea, a blood purifier, diuretic, laxative, tonic, and stimulant. It cures rashes, and is useful for the liver and its disorders, skin pest sores, and ringworm. The leaves are made into poultices used for treating hives, rashes and itches and are also used on animals to treat mange and saddle sores on pack animals.
- **Other uses**: The leaves and young shoots are edible raw, cooked or used in dough stuffing, and as a flavouring for soups, butter and omelettes. The plant is a wild flower.
- **Caution**: It causes mild diarrhoea.

- **Arabic name**: Humeid
- **Scientific name**: *Rumex vesicarius* L.
- **Common name**: Bladderdock, Rosy Dock
- **Family name**: Polygonaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, roots, young stems, and the whole plant.
- **Chemical constituents**: The roots contain chrysophanic acid and an alkaloid called rumicin, vitamin C (more than oranges) and vitamin A.
- **Pharmacological action**: The plant is used for jaundice, hepatitis, constipation, calculus and dyspepsia. It is purgative, antidote and vermifuge. It is also anti-diarrhoeal, treats scorpion stings, and is helpful in treating liver disorders. A lotion obtained from roots macerated in vinegar is used to treat ringworm. The leaves are made into a poultice for the treatment of hives, rashes and itches.
- **Other uses**: It provides flavouring for soups, butter and omelettes. The stems, seeds and even the roots are eaten because of the high proportion of tannin content. The leaves are made into a poultice and used on animals to treat mange and saddle sores on pack animals.
- **Caution**: It may cause toxicity because of the high percentages of dissolved oxalates (up to 60% of the fresh plant's weight). It causes animal disturbance, dyspnoea, a lack of muscle control, falling to the ground, an inability to stand up, then death. The plant is harmful to kidney patients.

- **Arabic name**: Faigan, Sathab, Sathab Mehdib
- **Scientific name**: *Ruta chalepensis* (Lam.) Lamarck.
- **Common name**: Syrian Rue
- **Family name**: Rutaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Flowers, leaves, stems, aerial parts, and oil.
- **Chemical constituents**: Furocoumarins, ketones, nonan-2-one, an essential oil in the stem, undecan-2-one (the major compound in flowers' and leaves' essential oils), 2-tridecanone, elemol, □-eudesmol, a phenyl carbonyl compound, flavonoids, tannins, sterols and/or triterpenes. The coumarins chalepensin, chalepin, rutamarin, bergapten, isopimpinellin and xanthotoxin as well as quinoline alkaloids, namely, 2-[6'-(2H-benzo[d]1",3"-dioxolen-5"-yl) hexyl]-hydroquinolin-4-one and 2-[6'-(2H-benzo[d]1",3"-dioxolen-5"-yl) hexyl]-4-methoxyquinoline are present. It also contains alkaloids, dictamnine, pteleine, skimmianine, rutacridone, isogravacridone chlorine, maculosidine, graveoline, graveolinine, 4-methoxy-1-methyl-2(1H)-quinolinone and umbelliferone, montanine, taifine, kokusaginine, arborinine, y-fagarine, 3'-hydroxygraveoline, isotaifine and 8-methoxytaifine. Furanocoumarins, dictamine, psoralen, clausindin arachidonic acid and collagen are present, as well as biscoumarin glucoside ester, rutin and chalepin acetate.
- **Pharmacological action**: The plant is analgesic, anti-rheumatic and aphrodisiac. It cures abdominal colic and pains, stomach aches, headaches, weak menstruation, mental problems, snake bites and poisonous stings, and wounds. The plant is also used for epilepsy, convulsions, insanity, hysteria, fever, febrile fits and indigestion. It is a nerve stimulant, and causes uterine contractions in higher doses, hence it contraindicates pregnancy. The plant is antiphlogistic, antipyretic, abortifacient, anthelmintic, emmenagogue and ophthalmic. Its decoction has been used in the treatment of paralysis and coughs. The leaves are heated then placed inside the ear to treat earache. It is antimicrobial, used for treating and preventing cancer and other diseases, and has potent anti-platelet aggregation and cytotoxic compounds.
  In folk medicine, it is used as a laxative, antispasmodic, antiepileptic, and for dermatopathy. The leaves and seeds are diuretics, anti-intestinal worms, tonic, digestion aids and abortifacient.

- **Other uses**: The essential oil obtained from the leaves is used in perfumery and as a food flavouring. The shoots are pickled with green olives and mixed as a flavour for margarine. The extract showed a clear antifeedant activity on mahogany shoot borer larvae (*Hypsipyla grandella*).
- **Caution**: The plant is used to induce abortion. Dried leaf infusions cause perinatal changes in mice. Contact with the plant or its juice and exposure to sunlight causes photoinflammation to the skin and redness, itching and swelling to the skin. All these symptoms occur within 24 hours of exposure. The inflicted skin area may be increased within 48 hours and could continue for a few days, then brownish spots may start appearing on the skin and persist for a few months. The skin is then affected by hypersensitivity and this may continue for a long period. Animals fed on a small amount of leaves (about 120 g) suffer severe disturbance.

- **Arabic name**: Faijan, Sathab Netin, Sathab
- **Scientific name**: *Ruta graveolens* L.
- **Common name**: Herby Grass, Rue
- **Family name**: Rutaceae
- **Growth habit**: Herb or Sub-Shrub
- **Life cycle**: Perennial
- **Part/s used**: Small branches, basal leaves, fruits, oil, and the whole plant.
- **Chemical constituents**: Esters, terpenes, ketone, a toxic aromatic oil consisting of methyl ketones, riturid, a flavone glycoside named rutin, bitter materials, alkaloids and tannin. Methylnonyleone, a bad-smelling essential oil (0.2-0.7%) in the leaves, and alkaloids (0.4-1.4%), mainly aborinine, kokusaginine and rutamine, are also present, as well as furocoumarins, xanthotoxin, and the coumarins bergapten, rutamarin, isoimperatorin, psoralen and pangolin. Chalepensin, gravelliferone methyl ether, and 3-(1,1-dimethylallyl) herniarin are contained in the roots. Also present are the quinoline alkaloids arborinine, graveoline (rutamine) and essential oil containing macrocyclic terpenes (methyl nonyl ketone).
- **Pharmacological action**: The plant is a remedy for many diseases in both humans and animals. It is an emmenagogue, anti-tussive, a tonic used for amenorrhea, antibacterial (extracts), an inhibitor of the haemolytic activities of snake and scorpion venoms, sedative, antispasmodic, stomachic, cholagogic, diaphoretic, anthelmintic, and carminative.
  Externally, the plant is used as an eyewash, applied in bandages for wounds and skin ulcers, and is used for colic, cramps, dyspepsia, epilepsy, hysteria, rheumatism, and vitiligo. It is poisonous, abortifacient, antiseptic, diuretic, expectorant and vermicide. It is effective in cases of blood period problems, dermatitis, laryngitis, stomatitis, hepatitis, and diarrhoea. It is a cure for gingivitis and blood diseases, is used for vomiting, helps uterus constrictions to ease birth and is hypotensive. A tincture of fresh leaves is used in homeopathy as a vasodilator for varicose veins. It is used for arthritis and neural pains. It overcomes migraines, is anti-parasitical, an insect and snake repellent, and repels kidney stones, and the oil is useful for the skin.
- **Other uses**: It is a bitter herb. Historically, it was regarded as an antidote for poisons and a provider of protection against witchcraft. It is an important stewing herb and also a useful insect repellent. The root was used for red dye. Its blue-grey foliage is handsome in the garden and tolerates frost damage. It is a decorative plant and regarded as a wild flower.

❖ **Caution**: All plant parts are strong aromatics and poisonous. It must be used under strict medical supervision, and is not allowed for pregnant women. High doses are toxic and may result in moral defects, and the toxic oil causes vomiting and abortion. Since the plant contains coumarin compounds, its use may cause skin eruptions and scabs. The use of an infusion of leaves should not be increased as it contains substances that cause bleeding. Carrying the plant may cause dermatitis in sensitive persons. Root, stem and leaf extracts of *R. graveolens* showed significant anti-fertility activity in rats when administered intragastrically on days 1-10 post-coitum. The chalepensin in the extracts is toxic. The plant causes phototoxic and genotoxic reactions, is of anti-conceptional activity, and causes fatal intoxication when used to induce abortion.

- **Arabic name**: Al-Khuraizi
- **Scientific name**: *Salicornia europea* L.
- **Common name**: Chicken Clows
- **Family name**: Chenopodiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves
- **Chemical constituents**: The plant is rich in minerals such as potassium, sodium, and iodine, vitamin C, phenolic acid, saponins, flavonoids, phenols, quercetin 3-o-beta-d-glucopyranoside, tungtungmadic acid and glycinebetaine.
- **Pharmacological action**: The plant is diuretic, depurative, and anti-scurvy (due to the vitamin C content) and is rich in minerals. A natural carminative, it treats obesity, aids digestion, alleviates flatulence and is thought to help kidney complaints. It is an antioxidant, lipid inhibitor and a radical scavenger.
- **Other uses**: The herb is edible raw as a vegetable and makes a pleasant seasoning when pickled in vinegar. The seeds contain oil. The plant was formerly used in fuel and its ash was used in the soap industry as sodium bicarbonate is obtainable from its ash, and it was also used in the glass industry. The plant has also been used for washing dishes. A forage species, it is considered as one of the most promising halophytes for the domestic cultivation of cattle.
- **Caution**: The plant causes abortion and death.

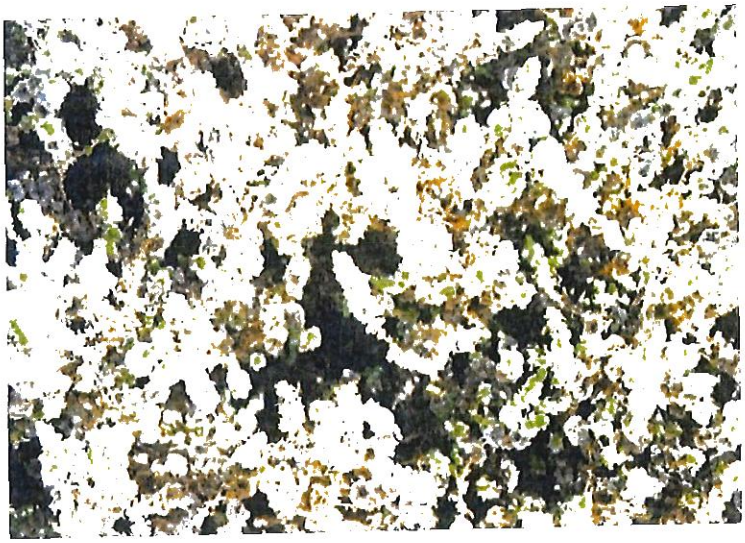
- **Arabic name:** Sufsaf Abyad
- **Scientific name**: *Salix alba* L.
- **Common name**: White Willow
- **Family name**: Salicaceae
- **Growth habit**: Tree
- **Life cycle**: Perennial
- **Part/s used**: Bark of 2-3-year-old twigs or branches, leaves, and male inflorescence.
- **Chemical constituents**: Some glycoside compounds, of which the most important are salicin, resins, flavonoids, vitamin C, tannins, and the phenol glycosides salicin, fragilin, fimalin, and salcortin. Male flowers contain traces of hormone compounds, wax and pigments.
- **Pharmacological action**: The bark is antiseptic, and is useful for cystitis, stomach and intestinal wounds. Its tincture is useful for curing arthritis and as a stimulant for the digestive system, and the bark was recently found to be useful for curing cancer and with a high degree of success. The leaves are used for the same purposes but have a lesser effect, and their decoction is useful for fever and colic. They are diaphoretic and febrifuge. The flowers are antispasmodic, sedative, and are successfully used to reduce uterus contractions and insomnia. The plant powder is externally used in the form of bath preparations to cure rheumatism, and as poultices for wounds, skin cancer and burns. Plant formulations are astringents, and are used for diarrhoea, dysentery and tuberculosis. A plant decoction as a gargle cures pharyngitis, gum and mouth sores, and is a wash for wounds and sores. A flower extract is a nervous system alleviator used for chest contractions, urine tract ailments and dysmenorrhoea.
  The plant is anodyne, tonic, and diaphoretic, and alleviates ailments. A medical coal from the branch wood is carminative and expels gases and flatulence. The plant cures gout and nerve diseases. It is antiphlogistic, antirheumatic, antipyretic, antihidrotic and analgesic. It is used in health food supplements, and is useful for the fast reduction of pain and inflammation. It is a component of anti-ageing cosmetics containing salicin or willow extracts containing salicin. Salicin prevents wrinkles and blotches, improves skin elasticity, and shows antiphlogistic and wound healing promoting effects. The bark is a pain alleviator and tonic, and acts

against influenza, malaria and inflammations. It is used against acidity (heartburn, gas, indigestion) and for stomach troubles. Salicin is closely related to aspirin and produces similar effects as a pain alleviator.

- **Other uses**: It is a forestry species. It is found in wades and waterways. It is also regarded as a wild flower.
- **Caution**: The plant may cause muscle ailments.

Pre-flowering naturally occuring plants

- **Arabic name**: Rotha, Hemd
- **Scientific name**: *Salsola vermiculata* L.
- **Common name**: Narrow-leaved Saltwort
- **Family name**: Chenopodiaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Vegetative parts, and the whole plant.
- **Chemical constituents**: Alkaloids.
- **Pharmacological action**: It is a cardiac stimulant and used for asthma, and the salsolidine content is used as an anti-hypertensive. The plant in general is a vasodilator and hypotensive.
- **Other uses**: It is a forage plant, and is salt and drought tolerant. It is regarded as a wild flower.
- **Caution**: No reports.



Flowering plant

- **Arabic name**: Miswak, Siwak. Oud Arak, Furshat Asnan
- **Scientific name**: *Salvadora persica* Garc.
- **Common name**: Rak
- **Family name**: Salvadoraceae
- **Growth habit**: Tree
- **Life cycle**: Perennial
- **Part/s used**: Bark, leaves, stems, roots, fruits and branches.
- **Chemical constituents**: A terythamine alkaloid, sitosterol, foliar ash, silica, calcium, phosphorus, potassium, tannins, fluoride, fatty oil, resin, fibre, volatile oil, and cellulose are present. The main chemicals in the branch extracts are N-benzylbenzamide (71.08%), decane (3.17%), stigmasterol (3.17%), 9-desoxo-9-x-acetoxy-3,8,12-tri-O-acetylingol (2.33%), and β-sitosterol (2.15%). The main components in the leaf extracts are 2,6-dimethyl-N-(2-methyl-α-phenylbenzyl)aniline (28.65%), spiculesporic acid (13.60%), homo-γ-linolenic acid (12.63%), and methyl hexadecanoate (11.01%). The root-wood extracts contained, as its primary constituent parts, benzene acetonitrile (71.47%), 4-aminocarbonyl-5-fluoro-1-α-D-ribofuranosyl-imidazole (10.99%), and benzyl isothiocyanate (5.05%). The plant also contains saponins, silica, flavonoids, salvadorin, cyanogenic glycosides, lignans, linoleic acid, stearic acid, salvadourea, vitamin C, silica and different salts
- **Pharmacological action**: The plant cures severe gout and rheumatism, it is a laxative, and it is used for boils, constipation, dysmenorrhoea, scorpion stings, swellings and ulcers. Young branches and leaves' powder with honey are used for bronchitis. The stems cure toothache and are used for toothbrushes, and the resin is used in making paint. Fresh root bark powder cures arthritis, and a root infusion is a diuretic used for gonorrhoea. A young branches and leaves decoction cures coughs and colds. Young roots are used as a toothbrush and are effective against teeth ailments.

  Fluoride is important for teeth strengthening and has effects against acids and teeth decay. Hard crystals of silica rub off precipitates that cover the teeth's surface and cause infection.

  Sitosterol and vitamin C are important in blood vessels that nourish the gums. Tannins prevent gum bleeding and strengthen it, and stop bleeding after teeth removal. Rak helps clean teeth, is appetizing, helps digestion and regulates intestinal motions. It has anti-cancer and antimicrobial effects. The plant is useful against plaque, and it is analgesic, anticonvulsant, antibacterial, antimycotic, cytotoxic, antifertility, deobstruent,

carminative, diuretic, astringent, and is also used for biliousness and rheumatism. The extracts and preparations from the plant exhibited anti-gingival irritation, hypoglycemia, antioxidant, antifever, anti-ulcerogenic, anti-caries and antiplatelet-aggression effects.
In folk medicine, the twigs are chewed for cleaning teeth. It is well known by herbalists, and fresh and dried leaves have different medicinal uses, including for arthritis and scorpion stings.

- **Other uses**: Fresh leaves are eaten in salads. The plant is found in a wild state in Jordan. It is a threatened species.
- **Caution**: No reports.

The plant in its full vegetative stage

Fruiting plant

- **Arabic name**: Qusein Masri, Shajarat Al-Ghazal, Naim
- **Scientific name**: *Salvia aegyptiaca* L.
- **Common name**: Egyptian Sage
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Aerial parts, leaves, and stems.
- **Chemical constituents**: Phenolic compounds including phenolic acids, phenolic diterpenes and flavonoids. Rosmarinic acid (757.17–1702.82 μg/g DW) and methyl carnosate (775.42–1092.50 μg/g DW) are the most abundant compounds. 6-Methylcryptoacetalide, aegyptinones A and B, 6-methyl-epicryptoacetalide and 6-methylcryptotanshinone are present. Essential oil comprises 40% terpenoid constituents and fat derivatives. The major terpenoid component is 1(10)-aristolene. The non-volatile matter contains amyrin, lupeol, sitosterol, stigmasterol, sitosterol-?-D-glucopyranoside and stigmasterol-?-diglucopyranoside as well as 3-hydroxy-24-alkylcarboxylate-12-oleanane-28-folic acid. Fatty acids esters, β-bourbonene, limonene, bornyl acetate, cadineneδ-gurjunene, selina-4,11-diene, germacrene D, bicyclogermacrene, β-cadinol, α-caryophyllene oxide, germacrene B, spathulenol, gurjunene, selina-4,11-diene, β-caryophyllene, mucilage, phytol, spathulenol and cis-and trans-farnesol are also present.
- **Pharmacological action**: The plant is demulcent, anti-diarrhoeal, and a cure for piles. An infusion of the aerial parts is used for colds, fevers, and stomach and intestinal pains. It has hypoglycaemic and antioxidant properties.
  In folk medicine, the plant was used to treat diarrhoea, gonorrhoea and haemorrhoids, and has also been used as an antispasmodic, cicatrizant, antiseptic and stomachic.
- **Other uses**: *S. aegyptiaca* by-products are promising sources of natural products such as phenolic antioxidant adjuncts for food processing. Its non-polar extracts have been tested as antimicrobial and showed inhibitory activity against *Bacillus subtilis, Pseudomonas aeruginosa, Candida albicans* and *Staphylococcus aureus*. The plant is a wild flower.
- **Caution**: High drug doses must be avoided by pregnant women. Thujone is usually present, which accompanies memory loss.

- **Arabic name**: Lusaineh, Waraq Al-Lisan, Lisan Al-Ejil
- **Scientific name**: *Salvia hierosolymitana* Boiss.
- **Common name**: Jerusalem Sage, Lampwick Plant
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves
- **Chemical constituents**: Essential oils, polyhydroxylated triterpenes, carbonylic compounds characterizing the oil, and fibres.
- **Pharmacological action**: It is an anti-inflammatory and antioxidant species. The essential oil has anticancer activity.
- **Other uses**: The leaves are edible like grape leaves, and are rolled with rice and mincemeat, then cooked, boiled and stewed. They are sold as vegetables. It is an ornamental plant in home gardens.
- **Caution**: Thujone is usually present in *Salvia* species, which can reduce women's lactation.

- **Arabic name**: Salvia Hindiya, Qusein Hindi, Meirameyah Zarga'i
- **Scientific name**: *Salvia indica* L.
- **Common name**: Blue Sage
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves and aerial parts.
- **Chemical constituents**: Aromatic oil and different terpenoids.
- **Pharmacological action**: A leaf decoction is used for rheumatism and colds. The plant's extract prevents the activity of MCF7 breast cancer cells and is highly toxic against these cells. It is also highly toxic to PC3 prostate cancer cells and cervical cancer cells of the HeLa strain. It works as an anti-tumour for other breast cancer cells like T47D, ZR-75-1, and BT 474.
- **Other uses**: A wild flower and common weed.
- **Caution**: No reports.

- **Arabic name**: Eiraim
- **Scientific name**: *Salvia lanigera* Poiret
- **Common name**: Desert Sage
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves and flowers.
- **Chemical constituents**: 1,8-cineole, a-pinenes terpin-4-ol, B-pinene limonene, and bornyl acetate.
- **Pharmacological action**: The plant is antibacterial and antifungal. It is used against various microorganisms, and cures a variety of abdominal troubles.
- **Other uses**: It provides an aromatic tea and is a wild flower.
- **Caution**: No reports.

- **Arabic name**: Salvia, Shafia Salbi
- **Scientific name**: *Salvia sclarea* L.
- **Common name**: Clary
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, flowering stems, and flowers.
- **Chemical constituents**: Tannins, aromatic oil consisting of linalool, linalool acetate, bitter materials, estragole (49%), eucalyptol (3.23%), camphor and lectin. The flower's essential oil contains eucalyptol traces and camphor.
- **Pharmacological action**: The plant is a stimulant, astringent, anti-diaphoretic, aromatic, a muscle relaxant, emmenagogue, anti-diarrhoeal and anti-dyspepsia. The plant's powder can be externally applied and vinegar as bandages or bath preparations to cure wounds and cancers. The lectin is important for the immune system. Its essential oil is used in medicine, but is more commonly used in colognes, perfumes, soap, and in the flavouring of wine and drinks. The seeds soaked in water produce a mucilaginous eye bath that safely removes dirt particles.
- **Other uses**: The leaves are used in omelettes, fritters, and stews, and for flavouring beers, wines and oil. It is an attractive plant for the flower garden, as it has beautiful and fragrant flowers. It has also been used as a potpourri fixative.
- ***Caution***: The chemicals of possible concern are in the essential oil, including estragole (49%), eucalyptol (3.23%) and camphor. Several *Salvia* species exhibit toxic activity in their leaves or aerial parts against several human cell lines.

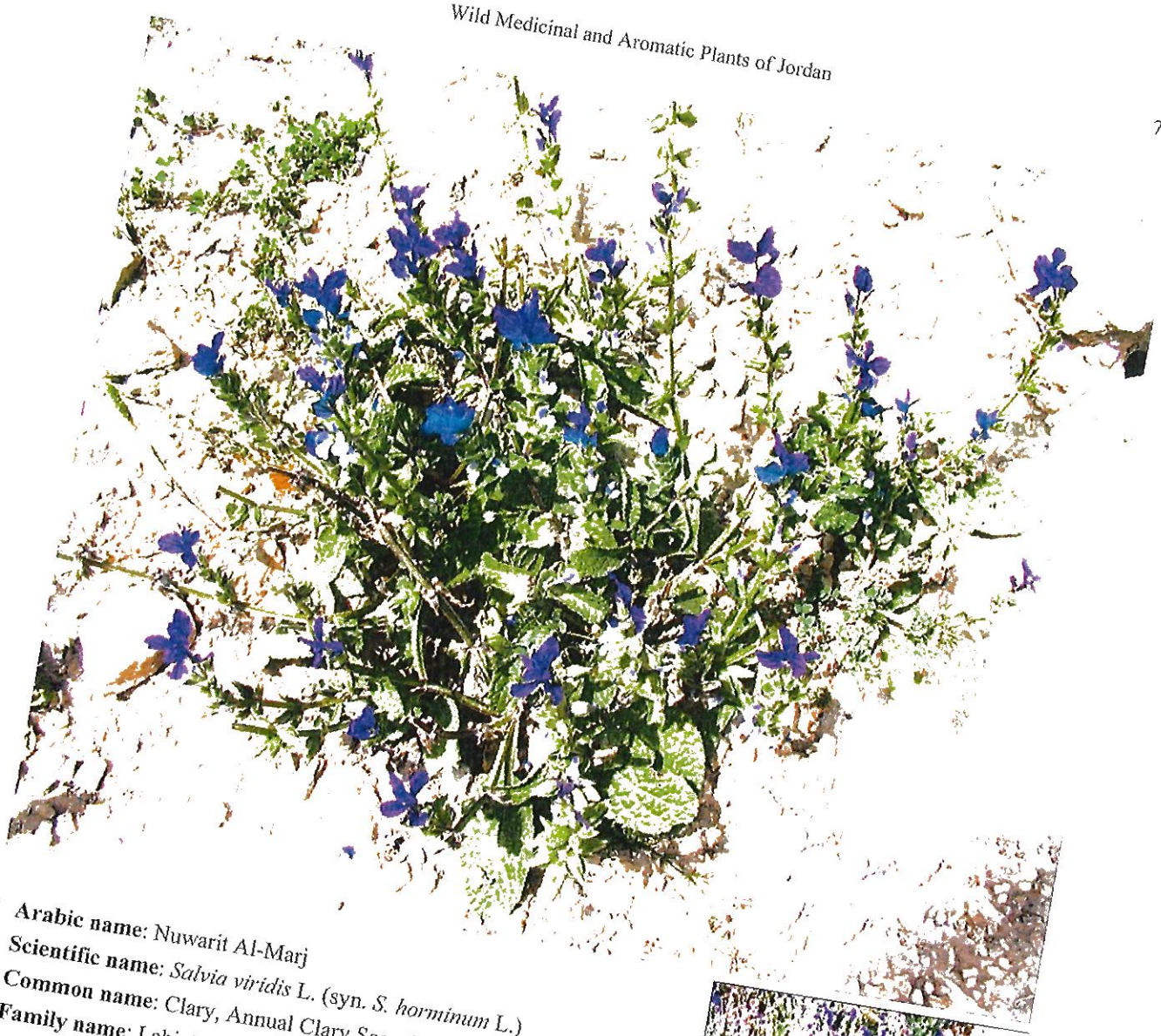
- **Arabic name**: Shafyi Lamia'a, Salvia
- **Scientific name**: *Salvia splendens* L.
- **Common name**: Scarlet Sage, Tropical Sage
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, stems, flowers
- **Chemical constituents**: Diterpenes named splenolide A, B and C.
- **Pharmacological action**: The plant is recreative and erotic. It controls diabetes mellitus, and is an aphrodisiac, antiseptic, antibacterial, antifungal, antiviral, antiphlogistic, antioxidant, hypoglycaemic, antispasmodic, cytotoxic, and anti-carcinogenic.
- **Other uses**: The plant is a wild flower. It is used as a bedding plant, and can be seen in shopping malls and public gardens all over the world.
- **Caution**: High drug doses must be avoided by pregnant women. Thujone is usually present, which accompanies memory loss.

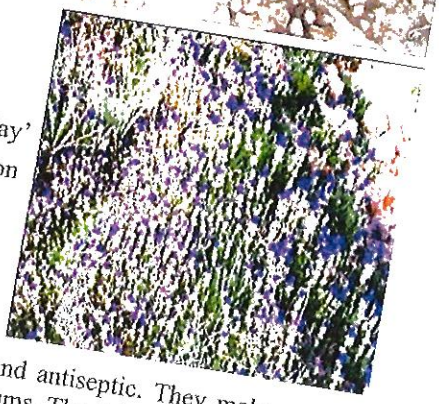
- **Arabic name**: Khuwaikha
- **Scientific name**: *Salvia syriaca* L.
- **Common name**: Syrian Sage
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Vegetative parts and flowers.
- **Chemical constituents**: The aromatic oil is rich in monoterpene derivatives (68–73%). The main constituents are thymol, α-pinene and isobornyl acetate (15.5%, 12.6% and 12.0%, respectively).
- **Pharmacological action**: The plant is used in painful illnesses, and it has anti-nociceptive and antiphlogistic effects on mice.
- **Other uses**: The plant is used in perfumes. It is a wild flower and common weed.
- **Caution**: High drug doses must be avoided by pregnant women. Thujone is usually present, which is associated with memory loss.

- **Arabic name**: Mayramiah
- **Scientific name**: *Salvia triloba* (L.) Mill
- **Common name**: Sage
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Sub-shrub
- **Life cycle**: Perennial
- **Part/s used**: Leaves and roots.
- **Chemical constituents**: Hydrocarbons, sterols, triterpenes, fatty acids, phenolic acids and flavonoids. Among the isolated flavonoids are 8-*methoxygenistein* 7-*O*-□-*L*-*rhamnoside* 4'-*O*-□-*D*-glucoside, diterpenoids, trilobic acid and trilobiol. Palestinol, eucalyptol, and sesquiterpene are present in the oil. The oil is also composed of cineole, camphor, thujone, caryophyllene, salvigenin, 5-hydroxy-4', 6, 7-trimethoxyflavone and □-pinene, terpenes and *sesquiterpene*. *Flavone glycosides*, 7-*glucosides* and 7-glucuronides of apigenin, luteolin, 6-methoxyapigenin, 6-methoxyluteolin, chrysoeriol 7-glucuronide, 6,8-di-C-glucosylapigenin, luteolin 7-diglucoside, luteolin 7-glucuronide-3'-glucoside, and 6-hydroxyluteolin 6,3'-di-me ether are also present, as well as *ursolic acid*, *oleanolic acid*, □-*sitosterol* and carnosol. In addition, triterpenoid acids are present in the plant.
- **Pharmacological action**: The plant is astringent, antispasmodic, and antimicrobial, prevents rotting, and reduces perspiration. A leaves decoction is used as a gargle for pharyngitis, laryngitis, tonsillitis, gingivitis, mucus membranes and gum inflammation. A plant decoction is also used for lungs, intestines, gall cystitis, excessive perspiration, dizziness and tuberculosis. It is recommended in cases of impotence, as a tranquillizer, and is used to control obesity and rheumatism. The decoction is also used as a head wash in cases of hair loss and in children's baths. The plant may strengthen the memory; cineol is antimicrobial, antihypertensive, hypoglycaemic, and spasmolytic. It has been used to cure fevers, colds and broken bones. The plant is a powerful cleansing herb and is very effective internally and externally. It expels mucus and poisonous waste matter from the body. The smoke of burned dried shoots is a mosquito repellent.
In folk medicine, the plant is used for diabetes, cardiac and lung diseases and externally for skin infections.

- **Other uses**: It is an important culinary herb. It is a staple in brewing. The plant possesses antifungal activity against the soil-borne pathogens *Fusarium oxysporum* and *Macrophomina phaseolina* and the foliar pathogens *Botrytis cinerea* and *Exserohilum turcicum*. Sage is used as a seasoning and is an essential condiment in sausages, poultry stuffing, stewed tomatoes, butter, and tea. Sage is also used in yoghurt. All types of sage are good bee herbs.
- **Caution**: A maceration of plants reduces lactation in nursing women. The tannin content is astringent and causes constipation.

- **Arabic name**: Khuwakha Nai'mi
- **Scientific name**: *Salvia verbenaca* L.
- **Common name**: Vervain Sage
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Aerial parts.
- **Chemical constituents**: Extract contains phenolic compounds, vanillic acid, caffeic acid, p-coumaric acid, ferulic acid, rosmarinic acid, phenolic diterpenes, carnosic acid, carnosol, methyl carnosate, flavonoids naringenin, luteolin, cirsiliol, apigenin, genkwanin, naringin and hesperidin.
- **Pharmacological action**: The plant is an antioxidant, and the rosmarinic acid shows levels of antileishmanial activity.
- **Other uses**: A wild flower.
- **Caution**: No reports.





'Blue Monday' Plant population

- **Arabic name**: Nuwarit Al-Marj
- **Scientific name**: *Salvia viridis* L. (syn. *S. horminum* L.)
- **Common name**: Clary, Annual Clary Sage, Painted Sage
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves, flowering spikes, seeds and oil.
- **Chemical constituents**: Essential oil.
- **Pharmacological action**: The leaves and flowering stems are aromatic and antiseptic. They make a good gargle for treating sore gums. It can be used externally as a wash for sore gums. The dried, powdered leaf can be used as a snuff. An infusion of the leaves is recommended for inflammations of the mouth and throat.
- **Other uses**: The seeds and leaves are used to flavour food and liquor. The seeds are cooked or used as a flavouring agent. The leaves are eaten raw or cooked, are very aromatic, and are added to salads, soups and cooked greens. The leaves and seeds, when added to fermenting liquors, greatly increase the potency of the brew. The essential oil obtained from the plant is used for flavouring certain beers and wines. *Salvia viridis* is a good pasture for bees.
- **Caution**: No reports.

Salvia dominica

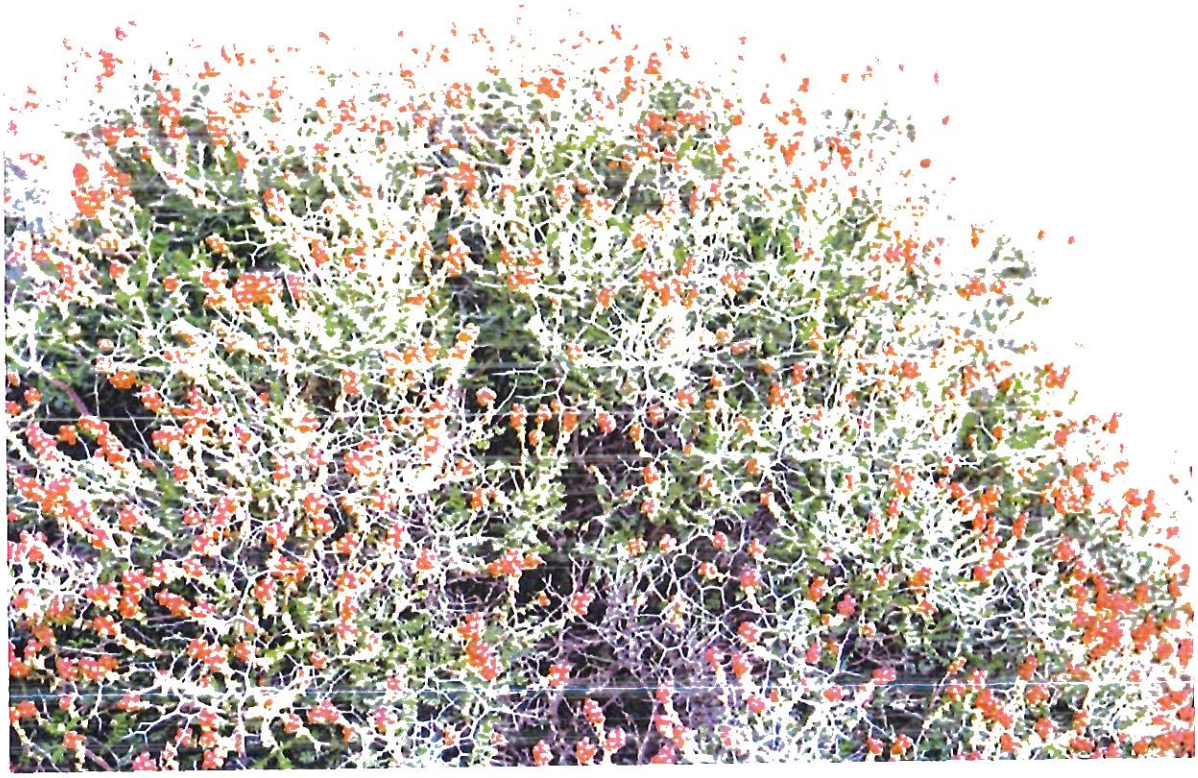
Salvia palaestina

Salvia spinosa

Salvia sp.

Salvia splendens

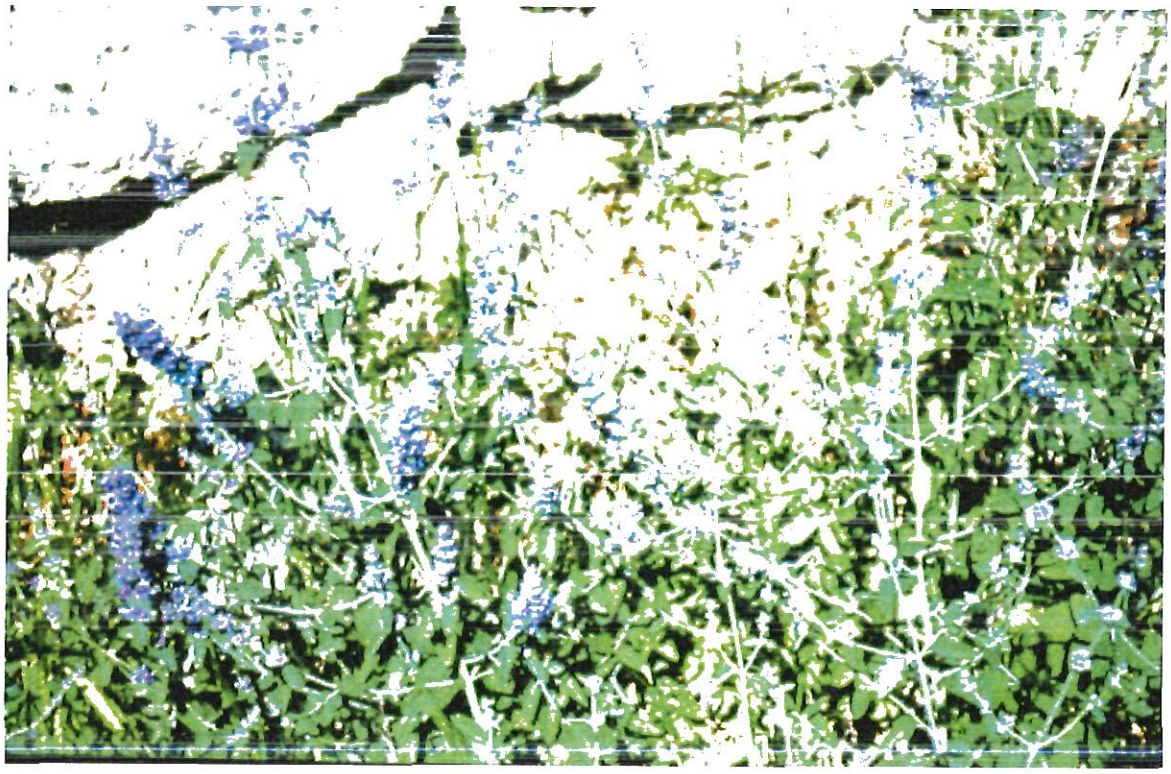
Different *Salvia* spp. in Jordan's flora



- **Arabic name**: Bellan, Natish
- **Scientific name**: *Sarcopoterium spinosum* (L.) Spach
- **Common name**: Thorny Burnet, Prickly Burnet
- **Family name**: Rosaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Leaves, flowers, and roots.
- **Chemical constituents**: Tannins and tormentic acid.
- **Pharmacological action**: The plant is anti-diabetic, diuretic, and is useful for renal calculi, edema, intestinal pain, kidney disease, sands and ulcers. Externally, it is used for haemorrhoids. It is also a cure for cancers, since its extract has shown important activity against the cancer cells ACHN, C32, A375 and LNCaP.
- **Other uses**: Fresh soft raw fruits are edible, and sometimes the flowering buds are also edible. The plant is used as a source of fuel in bakeries, and it is a wild flower.
- **Caution**: No reports.

The whole plant

- **Arabic name**: Zaitman
- **Scientific name**: *Satureja montana* L.
- **Common name**: Winter Savory
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Flowering tops and flowering branches.
- **Chemical constituents**: Plant extracts contain □-pinene, □-pinene, p-cymene, limonene, thymol, carvacrol, and sesquiterpenes. Flavonoids, iridoid glucosides, lamiol and 5-deoxylamioside, glycosides, □-terpinene, □-caryophyllene, borneol and bornyl acetate are also present. Essential oil (1-2%) contains phenols including carvacrol, thymol, an unidentified phenol giving a dinitrobenzoate, the monoterpenic hydrocarbons p-cymene, γ-terpinene, α-pinene, dipentene, borneol, l-linalool, terpineol and l-carvone. Thymol methyl ether and geraniol are present. Acids (AcOH, an unidentified solid acid), l-menthone, dihydrocuminic alcohol and monoterpenoids are in the volatile oils.
- **Pharmacological action**: The plant is antimycotic, fungistatic at low doses and fungicidal at higher concentrations. It is anti-contractive, anti-tussive, antispasmodic, antiseptic, antioxidant, a potent anti-HIV-1, anti-parasitic, anti-diarrhoeal, immune-stimulating, aromatic, diuretic, and a kidney and bladder tonic. It is used for asthma, insomnia, rheumatism and gout. It is also carminative, digestive, expectorant and stomachic. The plant cures colds, flu, urinary inflammations and diabetes. Anti-burn ointments containing an essential oil exhibit antimicrobial, osmotic and epithelium regeneration properties and are recommended for the treatment of burn wounds and arthritic joints, and are added to remedies and to flavourings. It is internally used for colic and flatulence as well as to treat nausea, bronchial congestion, sore throats and menstrual disorders. A sprig of the plant rubbed onto bee or wasp stings brings instant relief. The essential oil in lotions is used for the scalp in cases of incipient baldness. The plant was formerly used for colic. Its oil has a role as both a pharmaceutical and a preservative.
- **Other uses**: The plant has a mild, peppery taste, and thus is used with meat, cabbage, rice, bean dishes, stuffings, teas, butter and vinegars. It is mainly used in cookery as a potherb or flavouring. It has a potential application in the treatment and prevention of poultry and pig diseases caused by salmonella.
- **Caution**: The savoury oil causes irritation and is generally considered unsafe for use in aromatherapy and self-treatment. It is narcotic, toxic, causes damage to the skin, provokes fits, and is capable of causing a miscarriage. Trained medical professionals and homeopaths may well use some of these herbs and oils in minute amounts, but they should never be used in self-treatment or aromatherapy. It should not be prescribed for pregnant women.



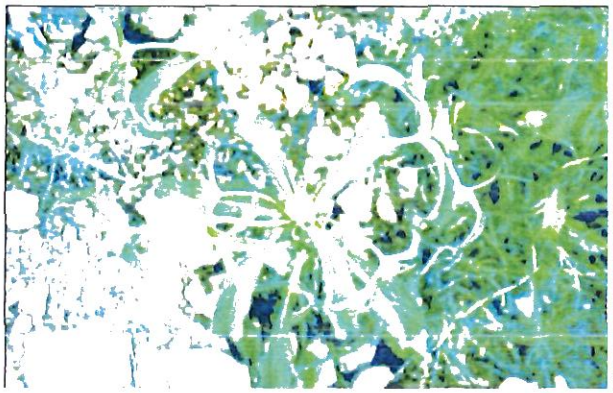
- **Arabic name**: Zaitman
- **Scientific name**: *Satureja thymbra* L.
- **Common name**: Pink Savory, Barrel Sweetener
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Non-woody flowering tops.
- **Chemical constituents**: Essential oil.
- **Pharmacological action**: The plant is used for diarrhoea, minor stomach upsets, throat sores and flatulence. The fresh leaf alleviates bee and wasp stings. It is a mild antiseptic and astringent. It is also a source of potassium.
- **Other uses**: A tea is prepared from the flowering shoots or leaves.
- **Caution**: No reports.

- **Arabic name**: Zaitman, Nadagh
- **Scientific name**: *Satureja* sp.
- **Common name**: Savory
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, non-woody flowering tops, and flowering branches.
- **Chemical constituents**: Essential volatile oils, phenols such as thymol, carvacrol, linalool, camphene, caryophyllene, terpineol, myrcene, and other terpenoids, B-complex group vitamins, vitamins A, B_6 (pyridoxine) and C, niacin, thiamin, pyridoxine, fibre and minerals including iron, calcium, magnesium, manganese, potassium, zinc and selenium.
- **Pharmacological action**: The plant is antiseptic, diuretic, aphrodisiac, carminative, expectorant, stomachic, anti-rheumatic, a kidney and bladder tonic, antioxidant, antibacterial, antifungal, anthelmintic, anti-tussive, anti-asthmatic, stimulant, digestive, antispasmodic and aromatic. It is used for diabetes, soothes neurotransmitter levels in the brain, helps body resistance against infections, and protects against lung and oral cavity cancers. It also treats digestive discomfort, bronchial congestion, throat sores, bronchitis, whooping cough and arrhythmia. It cures intestinal convulsions, insomnia, typhus, intestinal catarrh and gout. It is useful for colds, tonsillitis, pulmonary inflammations, paralysis, kidney stones, chronic diarrhoea, and leucorrhoea, and it regulates blood periods. The oil is useful for Alzheimer's disease. The plant has a wide spectrum of effects on bacteria-caused skin pimples, furuncles and tuberculosis.
- **Other uses**: A strong infusion is used in cleaning wine barrels. The essential oil is used in the pharmaceutical industry. The leaves flavour meat, fish, salads, soup, stew and sausages. The volatile essential oil is of acaricidal activity
- **Caution**: Oil at 1% is internally toxic.

Flowering stage

- **Arabic name**: Rashaad, Gilgilan, Jiljilan, Halawa, Khalawa, Rashad Jabali
- **Scientific name**: *Savignya parviflora* (Del.) Webb.
- **Common name**: Lunaria
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant, and seeds.
- **Chemical constituents**: Polyphenols, flavonoids, and the aerial parts of this plant gave a yellow colour oil at a 0.13% yield (v/w) on a fresh weight basis. The major constituents of the oil are palmitic acid (40.9%), phytol (8.5%), eicosane (6.4%) and tetratetracontane (5.9%). In addition, the oil contains cyclopentaneundecanoic acid, tetradecanoic acid (myristic acid), dodecanoic acid, p-menth-8(10)-en-9-ol, butanoic acid-3-methyl, 1 0-undecyn-1-ol, oleic acid, 2,9-dimethyldecane, 3,3-dimethylhexane, dodecane, and 2-methyl.
- **Pharmacological action**: The plant is an antioxidant, anti-inflammatory and anti-diabetic. It is used for chronic kidney disease and acute heat stress, and it has anti-ulcerogenic activities. The plant stimulates the central nervous system and is a cardiac stimulant.
- **Other uses**: It is a source of good camel fodder. It is a forage, medicinal and ornamental plant.
- **Caution**: No reports.

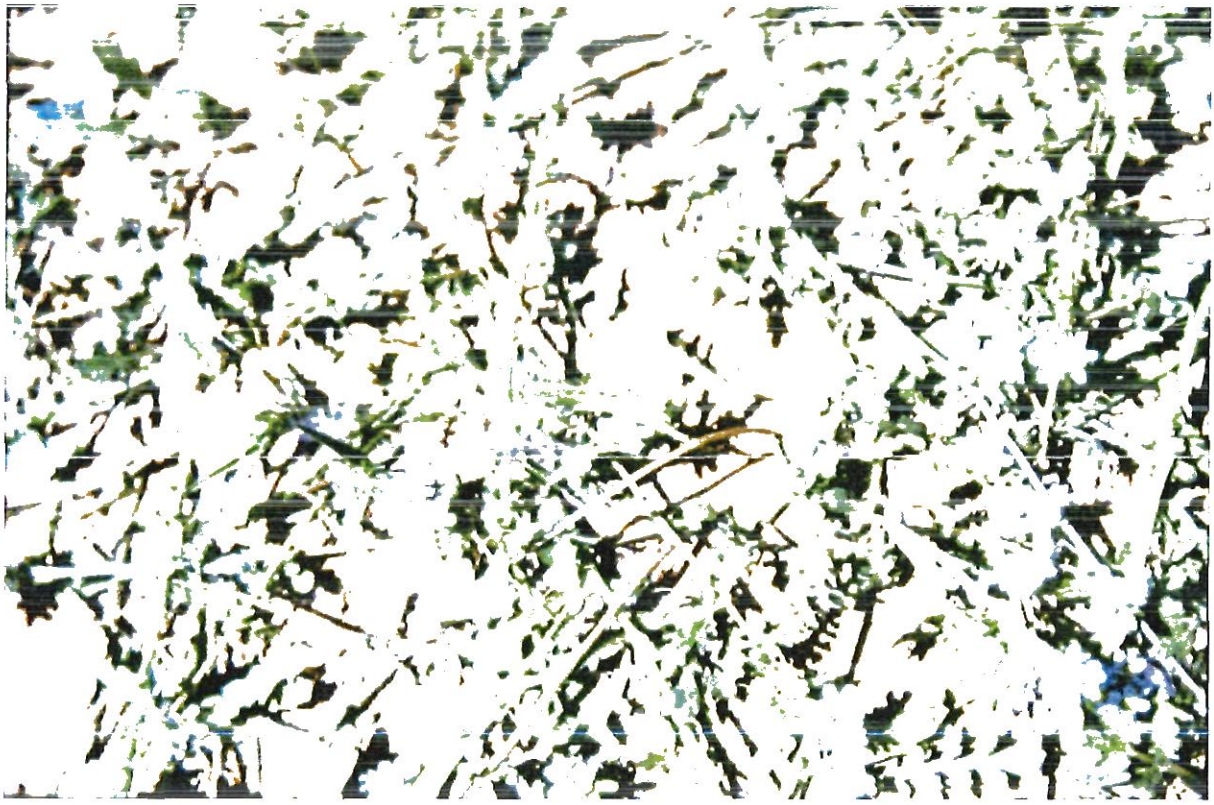
- **Arabic name**: Hasheshat al-Jarab, Thulaija, Ka'ab Al-Ghazal
- **Scientific name**: *Scabiosa prolifera* L.
- **Common name**: Carmel Daisy
- **Family name**: Dipsacaceae / Dipsaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: All aerial parts, seeds, and leaves.
- **Chemical constituents**: Triterpenoid saponins, triterpenes, flavonoids, lipids, triterpenoid glycosides, coumarins, alkaloids, iridoids, phenolic acids, resins and songorosides G, I, M, and O.
- **Pharmacological action**: The songoroside content has an effect on the central nervous system with short-term excitation. It induces frequent vomiting and appears to have a hunger-suppressing action. Songoroside-induced disturbance of myocardial metabolism and its preparation has a mineralocorticoid action, evoking hypernatremia and hypokalemia. The plant is cleansing, diuretic, febrifuge, diaphoretic, vulnerary and a menstrual regulator. It is soothing, an insect repellent, antiseptic, and refreshing, and alleviates headaches. It provides an ointment that can be used as an outward application for wounds, pestilence, bruises, and sores. Songoroside is of low toxicity in dogs after single doses, with little effect on blood coagulation processes. The plant was also used with pepper for anorexia. It is a tonic, a cure for scabies, catarrh, soreness of throat, swelling of the uvula and jaws, and very good for stemming bleeding from the nose and mouth. The herb is anthelmintic, demulcent, depurative, emmenagogue, mildly expectorant, and stomachic, and treats coughs, fevers and internal inflammations. Externally, it is used for eczema and other cutaneous eruptions. It aids the quick re-absorption of the blood pigment, and is used as an eye lotion to treat conjunctivitis.
  In folk medicine, the plant is mixed with pepper in cases of anorexia. It is a tonic, stimulant, cures scabies and catarrhal affections, and is used as an ointment on wounds, ulcers and other mouth sores and for nose and mouth bleedings.
- **Other uses**: A wild flower and common weed.
- **Caution**: The sencroside compound causes defects to the cardiac metabolism, and its formulations affect the hormone responsible for the metabolism of sodium and potassium mineralocorticoids, and obviously stimulates the increase in the sodium ion concentration in blood plasma and the abnormal reduction in potassium blood levels (hypokalemia).



Scabiosa palestina *Scabosa eremophila*

Scabiosa spp.

- **Arabic name**: Musht Al-Ra'i
- **Scientific name**: *Scandix pectin-veneris* L.
- **Common name**: Shepherd's Needle
- **Family name**: Umbelliferae / Apiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Aerial fresh parts.
- **Chemical constituents**: Fatty acids, fibres, phenols, alpha-tocopherol, and mineral elements.
- **Pharmacological action**: It is an effective antioxidant.
- **Other uses**: Fresh aerial parts are edible raw or cooked. The plant is regarded as a wild vegetable herb. It can be used as a spice in dough stuffing and salads. The plant is used for curing horses in India.
- **Caution**: No reports.



- **Arabic name**: Al-Sfaira
- **Scientific name**: *Schimpera arabica* Hochst & Steud ex Boiss
- **Common name**: Schimpera
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Aerial parts.
- **Chemical constituents**: Essential oils from the aerial parts contain pentanoic acid, undecanoic acid, tetradecanoic acid, oxirane, decyl, palmitic acid, butanoic acid, 2-propenyl ester, linolenic acid, ether, 3-butenyl pentyl, eicosane, octane, 3-ethyl-2,7-dimethyl, 2,9-dimethyldecane, hexane, 3,3-dimethyl, 2-hexadecen-1-ol and beta-sitosterol. The major constituents of the leaf oil are palmitic acid (42.6%), linolenic acid (16.7%), tetradecanoic acid (14.3%) and undecanoic acid (5.6%). In addition, phenolics and flavonoids are present in the plant.
- **Pharmacological action**: 2-hexadecen-1-ol and beta-sitosterol are the major constituents of the crude extract and exhibit significant antioxidant potential as well as antimicrobial activity. *S. arabica* contains a good amount of natural antioxidants of medicinal importance.
- **Other uses**: A wild flower and common weed.
- **Caution**: No reports.

- **Arabic name**: Cynaria, Snainerah
- **Scientific name**: *Scolymus hispanicus* L.
- **Common name**: Spanish Oyster Plant
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Vegetative parts and flowers.
- **Chemical constituents**: Taraxasterol, taraxasteryl acetate, flavonol glycosides, and quercetin acylglucuronide.
- **Pharmacological action**: The plant is hypoglycaemic, diuretic, depurative, digestive and choleretic. A plant decoction cures kidney ailments.
- **Other uses**: It is a wild flower. It is eaten in different regions. The flower receptacle and the central vein in basal spiny leaves are boiled and then fried with garlic and blended eggs. The root is a coffee substitute, and the flowers are used for food colouring as a substitute for saffron. The plant is used in salads, and small plants are eaten raw with roots or with boiled meat.
- **Caution**: No reports.

- **Arabic name**: Cynaria, Snainerah
- **Scientific name**: *Scolymus maculatus* L.
- **Common name**: Spotted Golden Thistle
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Stems and leaves.
- **Chemical constituents**: Acid protease enzyme.
- **Pharmacological action**: A stem decoction is used for intestine inflammations and nephritis.
- **Other uses**: The leaves and roots are edible. Young leaves are used like spinach. They are also eaten in salads. The plant is regarded as a wild flower. The flower receptacle is edible. The plant has similar effects as those containing chymosin (an aspartic endopeptidase, rennin). The enzyme is used in cheese as an alternative to rennet.
- **Caution**: No reports.

Plant population in the field

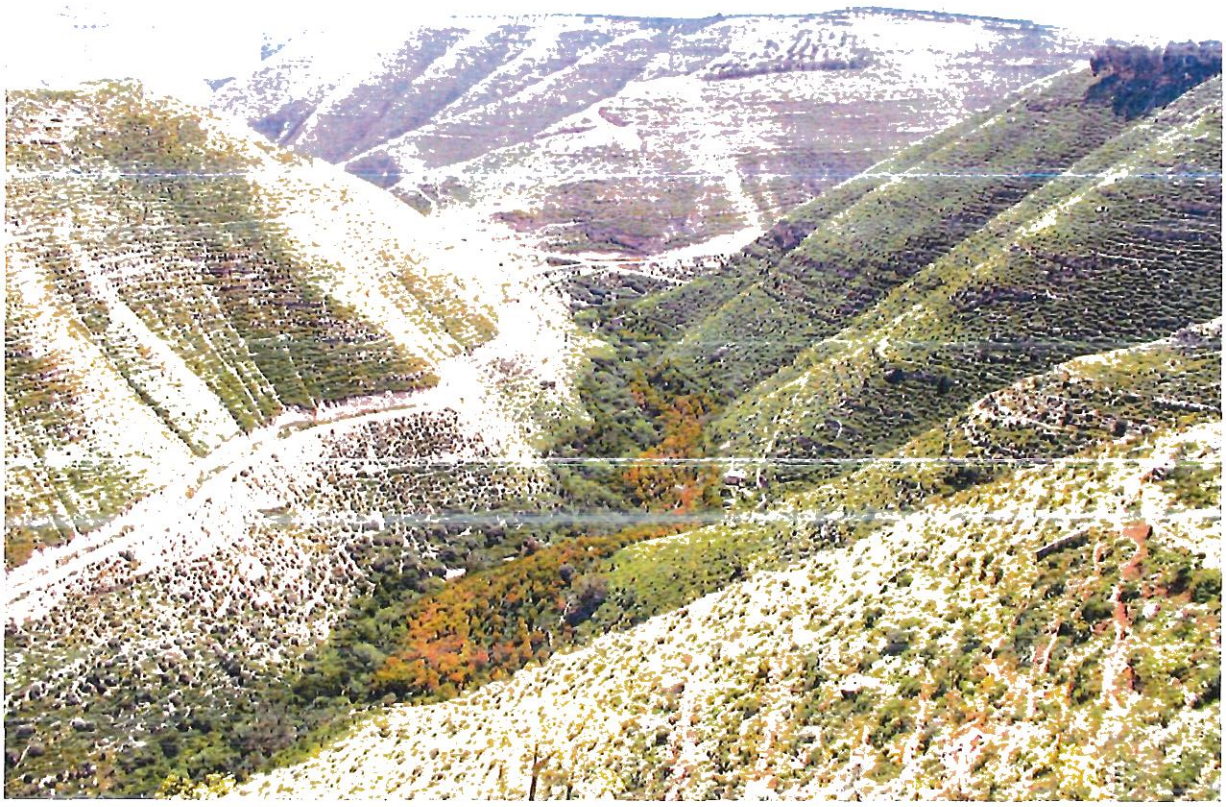
- **Arabic name**: Thanab Al-Aqrab, Lisan Al-Kalb, Wednah, Qraineh, Khzaimi
- **Scientific name**: *Scorpiurus muricatus* L.
- **Common name**: Two-Flowered Caterpillar Vetch, Prickly Caterpillar
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant.
- **Chemical constituents**: Daidzin, genistein, glycitein, and irilone.
- **Pharmacological action**: It is an antidote for scorpion poison.
- **Other uses**: Common weed.
- **Caution**: No reports.

The plant at the seeding stage

- **Arabic name**: Thubah
- **Scientific name**: *Scorzonera papposa* DC.
- **Common name**: Pink Viper's Grass
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, and the whole plant.
- **Chemical constituents**: (6-*trans*-*p*-coumaroyl)-3-*O*-β-D-glucopyranosyl-2-deoxy-D-riburonic acid, (6-*cis*-*p*-coumaroyl)-3-*O*-β-D-glucopyranosyl-2-deoxy-D-riburonic acid, *(6*-trans-p-*coumaroyl)*-3-*O*-β-D-glucopyranosyl-2-deoxy-D-riburonic acid methyl ester and (6-*trans*-*p*-coumaroyl)-3-*O*-β-D-glucopyranosyl-(5-acetyl)-2-deoxy-D-riburonic acid, and the rare deoxy-D-riburonic acid moiety.
- **Pharmacological action**: The plant is used for snake bites. It possesses antioxidant and free radical scavenging activity. The plant's aerial parts cure headaches.
- **Other uses**: The stem and leaf base are edible, and the plant is a wild flower.
- **Caution**: No reports.

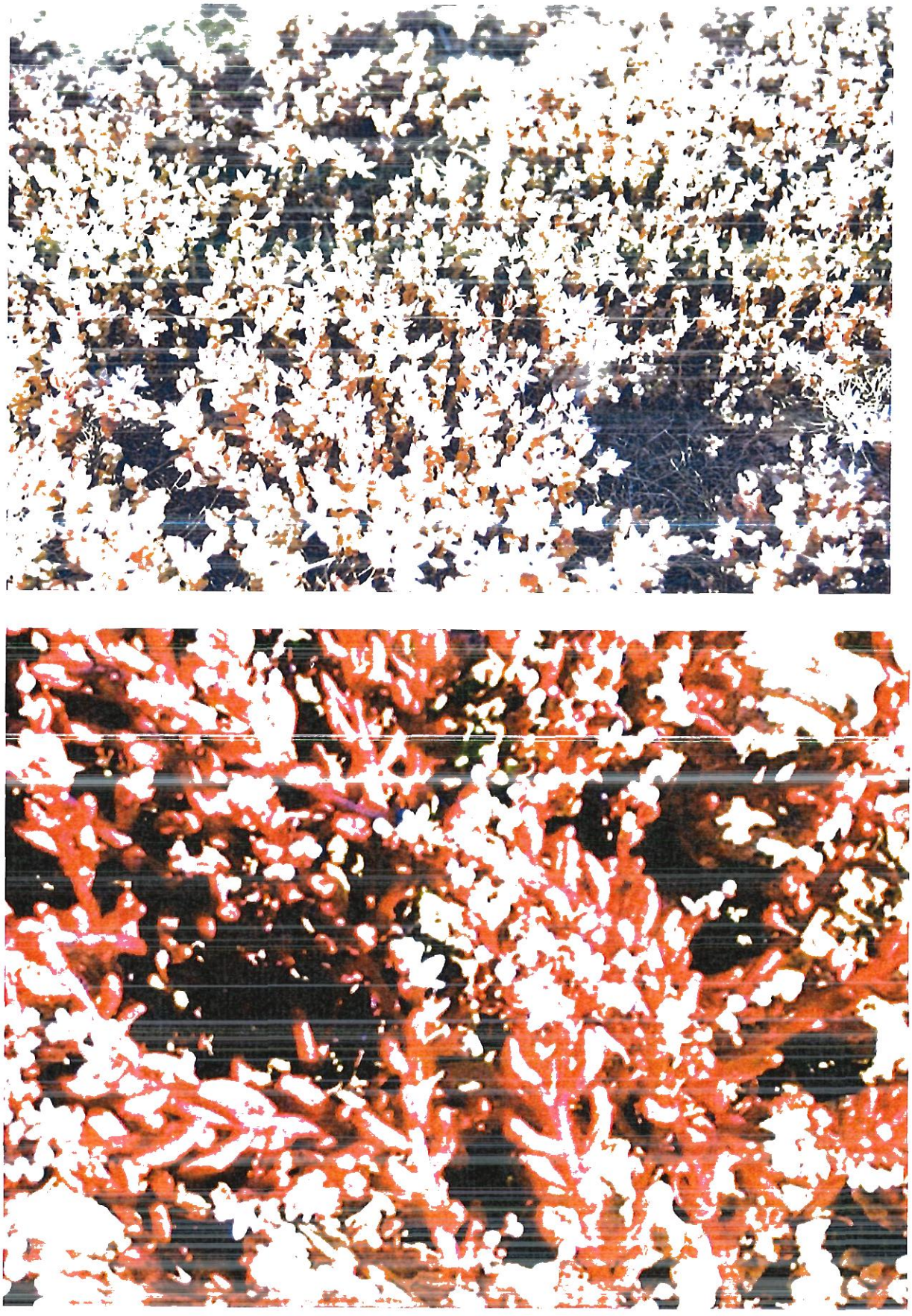
- **Arabic name**: Oshbat Al-Bawaseir, Al-Khanazeria, Aqda'i, Zaita'i, Oshbah Khanazeri'a, Khanazeria
- **Scientific name**: *Scrophularia hypericifolia* Wydl.
- **Common name**: Figwort
- **Family name**: Scrophulariaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Roots, flowering branches, and aerial parts.
- **Chemical constituents**: Saponins, diosmin, alkaloids, cardiac glycosides, atrasinic derivatives, organic acids including palmitic, motiric and maleic, vitamin C, and phenolic acids including caffeic, cumaric and ferulic. Sucrose, mannitol, mineral salts, hydroxybenzene, iridoids, glycoterpenoid and verbasco-saponin A are also present.
- **Pharmacological action**: It is a light laxative, astringent, hemolyzing, anthelmintic and diabetic plant. It is used for dropsy, tuberculosis and arthritis. It is a powerful painkiller, analgesic, reduces edema, is a bile stimulant, and reduces cell infiltration and the proliferation of activated T-lymphocytes in joint tissues. It inhibits inflammations including prostaglandin E2, leukotriene B4, NO, interleukin-1beta, interleukin-2, interleukin-4 and interferon-gamma. It is also a diuretic, a mild laxative and vulnerary. It has been used internally for glandular and skin disorders. Externally, it has been used to treat swollen glands, ulcers, abscesses, earache, slow-healing wounds, burns, chronic eczema, psoriasis and haemorrhoids. Anti-tumour activity of the oligosaccharide homologue SnS-2 from the root of *Scrophularia ningpoensis* has been also reported. The leaves' maceration is used for skin diseases and a root decoction is used for throat inflammations, including swollen glands and tonsillitis.
- **Other uses**: A wild flower.
- **Caution**: The plant is toxic and must not be overdosed because it contains saponins that have a very powerful effect on liquefying the blood. It has a very strong and unpleasant scent. Some species are heart stimulants and thus must be avoided in cases of abnormally increased heart pulse rates. Toxicity resulted in rapid respiration. The plant should not be taken internally, unless under strict medical supervision.

- **Arabic name**: Khanazeria
- **Scientific name**: *Scrophularia nodosa* L.
- **Common name**: Common Figwort
- **Family name**: Scrophulariaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Flowering stems, rhizomes, roots, and flowering lateral branches.
- **Chemical constituents**: Bitter substances, saponins, diosmin, acids including cinnamic, ferulic, caffeic, vanillic, and sinapic (present as esters or glycosides), mannitol, mineral salts, hydroxybenzene, acylated iridoid glycosides, acylated iridoid and phenylethanoid glycosides from the aerial parts. Cumaric acid, phenolic acids, isoferulic acid, p-coumaric, p-hydroxybenzoic, and p-hydroxyphenylacetic acid are also present. The sugar fraction yielded raffinose, sucrose, glucose, fructose, dulcitol, and stachyose. Aucubin-type glucosides and toxic alkaloids are present. In addition, the plant contains palmitic, motiric and maleic acids and vitamin C.
- **Pharmacological action**: A dermatological agent, it increases myocardial contractions, and is astringent, harmonizing, hypoglycaemic, a blood cleaner, emmenagogue, anthelmintic, diuretic, a mild laxative, and vulnerary. Internally, it is used for glandular and skin disorders and, externally, to treat swollen glands, ulcers, abscesses, earache, slow-healing wounds, burns, chronic eczema, skin diseases, eruptions, sores, and haemorrhoids.
- **Other uses**: A wild flower.
- **Caution**: The plant should not be taken internally, unless under strict medical supervision. It is toxic and must not be overdosed because it contains saponins that have a very powerful effect on diluting the blood. It has a very strong and unpleasant scent.



Wadi Al'Al-Irbid

- **Arabic name**: Orff Al-Deek
- **Scientific name**: *Sedum rubens* L.
- **Common name**: Red or Biting Stonecrop, English Mass
- **Family name**: Crassulaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Flowering stems and leaves.
- **Chemical constituents**: Piperidine alkaloids, (namely (+)-sedridine, (-)-sedamine, sedinone and isopelletierine), the flavone glycoside rutin, mucilage, tannins, vitamin C and calcium carbonate.
- **Pharmacological action**: Biting stonecrop possesses a sharp, peppery and acrid taste, which makes it somewhat toxic. It treats epilepsy and induces miscarriages. It is hypotensive, reduces cholesterol levels and is anti-arthritic. It is used externally in the form of lotions and ointments. Fresh leaves' powder is used for skin problems, though just for a short time because it causes inflammations.
- **Other uses**: A wild flower.
- **Caution**: Consumption of the plant may cause irritation to the mucus membranes, cramps, permanent eye destruction, paralysis, and respiratory paralysis. It is toxic if eaten in large quantities and causes headaches, general feebleness, vomiting, tremors, comas and breathing trouble. Exposure to the plants' juice or sap may produce a skin rash or irritation. Skin wounds from some of these plants can be extremely painful, causing large blisters and burning of the skin. The plant should never be collected and used for self-medication. It causes comas and dermatitis in dogs.



Sedum sp.

- **Arabic name**: Hemdd, Shnana
- **Scientific name**: *Seidlitzia rosmarimus* Bge. Ex Boiss.
- **Common name**: Seidlitzia
- **Family name**: Chenopodiaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Leaves, stems and seeds.
- **Chemical constituents**: Alkaloids and salts.

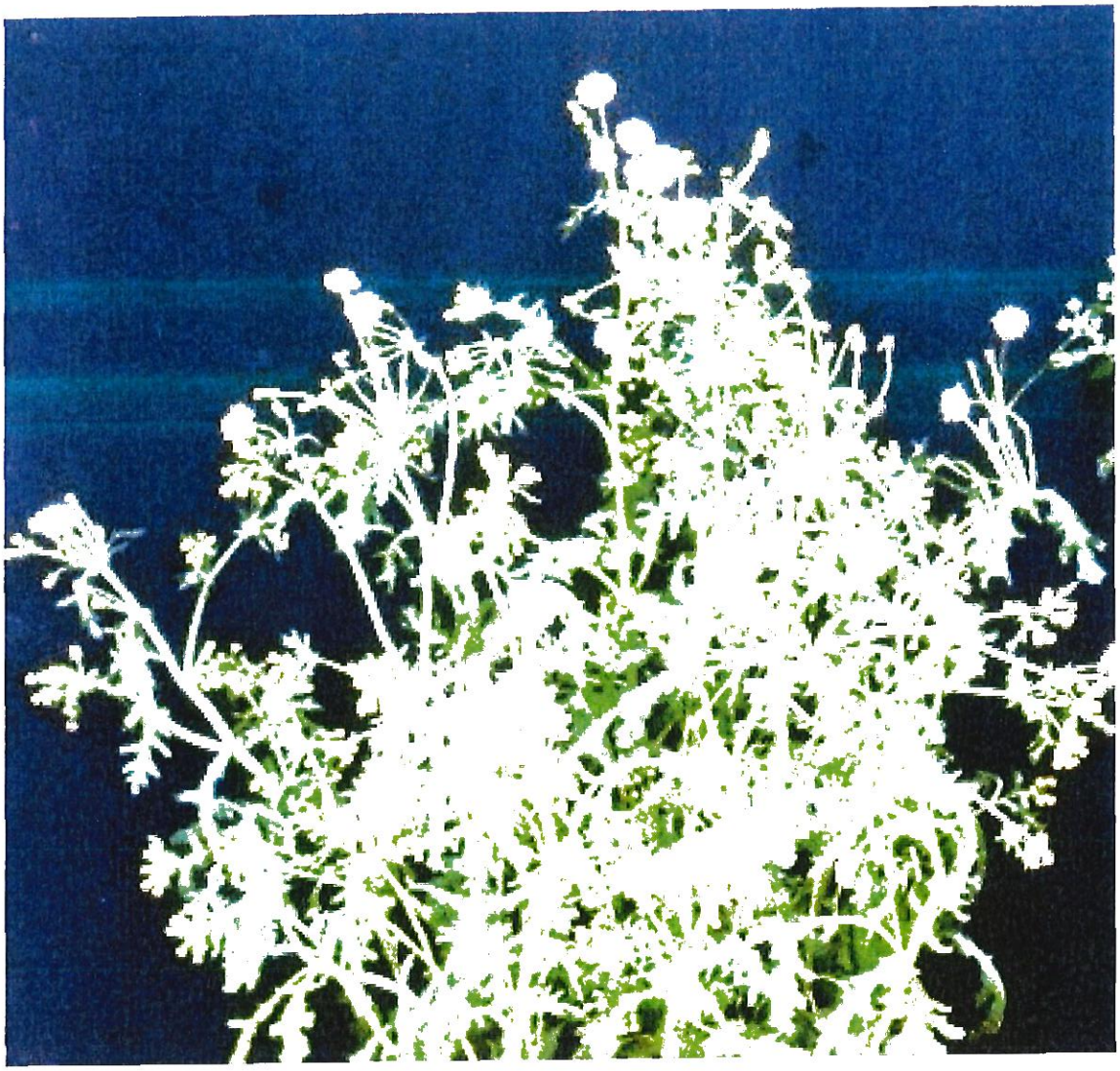
Spread in the field

- **Pharmacological action**: It is a cure for lower urinary tract symptoms associated with benign prostatic hyperplasia. It is incorporated with cleaning or washing materials and soap.
- **Other uses**: It is a soap substitute. The leaves, stems and seeds are used as fodder for livestock. Its ash makes a salt rich in sodium bicarbonate, which when dissolved in water produces a soda. The dried leaves' powder is a detergent for washing clothes and dishes. It also has many industrial applications, including in the dyeing, pottery and ceramic industries. The plant is a common fodder in dry and desert regions.
- **Caution**: No reports.

- **Arabic name**: Muraira, Hamad Bahaim
- **Scientific name**: *Senecio flavus* (Dec.) Sch. Bip.
- **Common name**: Yellow Groundsel, Decalsne Groundsel
- **Family name**: Compositae / Asteraceae
- **Growth habit:** Herb
- **Life cycle**: Annual
- **Part/s used**: Roots, leaves, and flowers.
- **Chemical constituents**: 3B-methylbutyryloxyeuryopsin, 3B-senecioyeuryopsin, 3B-hydroxyeuryopsin, euryopsin-3-one, furanoligularenone, 3-Oxo8a,12a-dimethoxy-8,12-dihydro-10aHfuranoeremophil-10aH,3-Oxo-8a methoxy-10aHeremophila-1,7-dien-12,8B-olide, 10Ah eremophila-1,7-dien-12,8B-olide,3-Oxoeremophila-1,7-dien-12,8B-olide,Oxo8a-methoxy-10aH-eremophila-1,7-dien-12,8 Blactam, 1B,10B-Epoxy-8a, methoxyeremophil-7-en-12,8B-olide, furanoeremophilanes (1a, 1c, 2 and 4), one eremophilenone lactam and one eremophilenolide, as well as some other compounds.
- **Pharmacological action**: The plant causes glucosidase inhibition, and is used for dysmenorrhoea, varicose veins and nephritis.
- **Other uses**: A wild flower.
- **Caution**: No reports.

- **Arabic name**: Shroonah, Murair, Zahret Al-Shikh
- **Scientific name**: *Senecio vernalis* Waldst. & Kit
- **Common name**: Spring Groundsel
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The flowering plant.
- **Chemical constituents**: Mineral elements, tannins, resin, mucilage, pyrrolizidine, longilobin, atropine and scopolamine.
- **Pharmacological action**: The plant induces menstruation, is astringent, laxative, and anthelmintic, and is used for anaemia, inflammation and nose bleeding.
- **Other uses**: A wild flower.
- **Caution**: It is a genus in which some species may contain toxic unsaturated pyrrolizidine alkaloids such as senecionine and riddelliine. The ingestion of these plants, especially in large amounts, is expected to affect major body organs such as the liver, heart and kidneys. The plant is known to cause problems in animals. Toxicity symptoms include changes to the neural and digestive systems, stomach ailments, severe gases, intestinal colic and an increase in the liver's size.

Plant population



- **Arabic name**: Shroonah, Zamrooq, Sheikha Shai'a, Murar
- **Scientific name**: *Senecio vulgaris* L.
- **Common name**: Ragwort, Groundsel, Common Ragwort, Common Groundsel
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The flowering plant either fresh or dry.
- **Chemical constituents**: Mineral elements, mucilage, tannin, resin, alkaloids including senecionine, scopolamine, longilobin, inulin, integerrimine, retrorsine, pyrrolizidine alkaloids, senecin, atropine and usamarine. In leaves, senecifoline, spartoidine, senecifolidine, riddelliine, and the corresponding N-oxides and plakophilin are present. In roots, polyamine spermidine and plakophilin are present.
- **Pharmacological action**: The plant has a selective effect on the sexual system in women, such as to induce menstruation and its ailments, and it also cures anaemia and stops nose bleeding. It is anthelmintic, astringent, laxative, anti-diaphoretic and antiphlogistic. A root decoction is taken orally for tuberculosis. In folk medicine, it plays a certain role as an emmenagogue and against amenorrhoea.
- **Other uses**: It is a favourite food for rabbits and the seeds are eaten by birds. It is a wild flower.
- **Caution**: The genus includes some species which may contain toxic unsaturated pyrrolizidine alkaloids including senecionine and riddelliine. Preparations of this ragwort should neither be recommended nor administered. The ingestion of these plants, especially in large amounts, is expected to have effects on major body organs such as the liver, heart and kidneys. It is known to cause problems in animals.

- **Arabic name**: Al-Warkha Al-Qazama, Wreiga, Ushba Darah
- **Scientific name**: *Serratula pusilla* Aiton (Syn. *Liatris pilosa* (Aiton) Willdenow)
- **Common name**: Dwarf Saw-Wort, Plumeless Saw-Wort
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Flowering parts.
- **Chemical constituents**: Apigenin, luteolin, quercetin, flavonoids, and ecdysteroids.
- **Pharmacological action**: The extract of flowering parts is used to treat insect stings.
- **Other uses**: A wild flower.
- **Caution**: No reports.

- **Arabic name**: Luzauqa, Dubaiqa, Shawarib Al-Qit, Thail Al-Thailab Al-Akhdar
- **Scientific name**: *Setaria viridis* (L.) P. Beauv.
- **Common name:** Green Foxtail, Green Bristlegrass
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant, aerial parts, and seeds.
- **Chemical constituents**: A phenolic compound, naphthol, rhamnoside, naphthol rhamnosides, protein, fibres, carbohydrates, and mineral elements including magnesium, silicon, sulfur, calcium, chlorine, potassium and iron.
- **Pharmacological action**: The plant is externally applied for scratches and bruises. The seeds also have many medicinal values. It is an antimicrobial and antioxidant plant.
- **Other uses**: It is a common weed in cultivated fields and gardens. It is also used in plant bedding.
- **Caution**: No reports.

Setaria verticillata (L.) P.B.

- **Arabic name**: Shintian Al-Noriya, Ihlewan
- **Scientific name**: *Silene aegyptiaca* (L.) L.
- **Common name:** Egyptian Campion, Egyptian Catchfly
- **Family name**: Caryophyllaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Aerial parts and seeds.
- **Chemical constituents**: Phytosteroids, ecdysteroids, and saponins.
- **Pharmacological action**: It is an antioxidant, and the seeds' smoke cures mouth and throat ulcers.
- **Other uses**: A wild flower.
- **Caution**: No reports.

Plant spread in fields

- **Arabic name**: Al-Shab Al-Ayeiq, Smaisim, Shintian Al-Noriya, Ihlewan
- **Scientific name**: *Silene conoidea* L.
- **Common name**: Cone Campion, Large Sand Catchfly, Cone Catchfly, Weed Campion, Weed Silene
- **Family name**: Caryophyllaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Aerial parts, leaves, and seeds.
- **Chemical constituents**: The significant essential oils of *Silene* species include benzenoids, terpenoids, fatty acid derivatives, phenylpropanoids, α-pinene, β-pinene, limonene, and nitrogen-containing compounds.
- **Pharmacological action**: The root is used as an emollient and to wash wounds. The plant is also an emollient, and is used in baths or as a fumigant. The juice of the plant treats ophthalmia and a fresh leaves paste is applied topically for skin infections.
- **Other uses**: A wild flower.
- **Caution**: No reports.

- **Arabic name**: Fuqa'i, Toqiq, Khushkhaish
- **Scientific name**: *Silene vulgaris* (Moench) Garcke
- **Common name**: Rattlebox, Bladder Campion
- **Family name**: Caryophyllaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Aerial parts.
- **Chemical constituents**: Saponins and essential oils. In the roots, alicyclic compounds, aliphatic compounds, alkaloids, amino acids, peptides, and triterpenoid saponins are present. The main compounds identified in the plant are silenosides A, B and C, quillaic acid and gypsogenin. The leaves and seeds contain fatty acids. The intact aerial parts of the plant contain a pectic polysaccharide called silenan. The essential oil contains longifolene aldehyde (20.39%), cyclo-hexane-methanol (18.53%), juniper camphor (17.66%), elemol (11.44%), thyme camphor (6.44%), thymol (4.15%), 1,6-germacradien-5-ol (2.79), β-elemene (2.75%), 2,10-bornanediol (2.55), thymol acetate (2.48%), β-eudesmol (2.20%) and tau-cadinol (2.06%) as its major components. Saponins are also present in the plant. Myrcene, fenchone, trans-caryophyllene, α-cubebene, longifolene, β-oxybutene, N-bromoacetamide, β-chenepodial and ethylene glycol vinyl ether are also present.
- **Pharmacological action**: The plant is used for urinary inflammations and as an antifungal. It is said to be emollient when used in a bath or as a fumigant. The plant juice treats ophthalmia and bladder complaints. Longifolene, the major aromatic compound, is a naturally occurring sesquiterpene and has a role in a number of oxidation and rearrangement reactions, and is significant in the fragrance industry. Beta-elemene is a mixture of sesquiterpene compounds with outstanding advantages on a broadly anti-tumour spectrum, and has a curative effect and a less adverse reaction. Thymol oil has shown anti-inflammatory, immunomodulatory, antioxidant, antifungal and antibacterial properties.
- **Other uses**: The root is used as a soap substitute to clean clothes. The leaves and fresh young stems are edible raw or cooked. The plant is an ornamental in gardens. Young leaves are used fresh in salads.
- **Caution**: The plant contains saponins. Although toxic, these substances are very poorly absorbed by the body and so tend to pass through without causing harm. They are also broken down by thorough cooking. Saponins are found in many plants, including several that are often used for food, such as certain beans. It is advisable not to eat large quantities of food that contain saponins. Saponins are highly toxic to fish, and hunting tribes have traditionally put large quantities of them in streams and lakes in order to stupefy or kill the fish.

Silene arabica

Silene sp.

Different *Silene* spp.

- **Arabic name**: Shook Al-Gammal, Khurfeish, Shaloh
- **Scientific name**: *Silybum marianum* (L.) Gerth
- **Common name**: Milky Thistle, St. Mary's Milk Thistle, Blessed Milk Thistle, Marian Thistle, Mary Thistle, Saint Mary's Thistle, Mediterranean Milk Thistle, Variegated Thistle, Scotch Thistle, Holy Thistle,
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual or Biennial
- **Part/s used**: Ripe fruits, leaves, seeds, and roots.
- **Chemical constituents**: Fruits contain flavone lignins including silymarin. A flavonolignan complex is present, consisting of silibinin A and B, silybin/silymarin I, isosilibinin A and B, silicristin/silymarin II, and silidianin. Isosilybins, silychristin and silydianin, phytoestrogens and terpenes, which are useful as anti-tumour agents, lipids, dehydrosilibinin, flavonoids, bioflavonoids and quercetin are also present. It also contains fatty oil, proteins, an aromatic volatile oil, bitter compounds, tannins, resins, nitrate and nitrate salts, and histamine.
- **Pharmacological action**: It is a stimulant. It can be prepared in the form of a tablet, tincture or drops with a certain percentage of active ingredients for gallbladder diseases. The plant is antispasmodic and hypertensive, and a drug made from the leaves is antipyretic. It is important for the pituitary gland. It is an appetizer, and is used for dyspepsia, gallstones, vomiting, cardiac and vascular debilities and depression. It is also used against prostate cancer, as an antioxidant and anti-haemorrhoidal, is chemopreventative against chemical carcinogenesis and photocarcinogenesis in various animal tumours, is anti-hepatotoxic, and suppressed tumourigenesis in a rat model for colon cancer at different stages of carcinogenesis. Quercetin is a strong inducer of apoptosis, and silymarin may induce tumour cell death. There is a great potential for the use of plant-based anti-inflammatories in cancer prevention in dietary supplements. A natural hepatoprotector, it improves the blood and liver antioxidant status, and possibly affects the blood plasma lipoprotein of diet-induced hypertriglyceridemia. It has bitter, tonic, choleretic and cholagogic properties. Its medical preparations stimulate the flow of bile and the regeneration of tissue. It is used in cases of toxic liver damage, chronic inflammatory livers and cirrhosis. It is sedative, has a protective effect against endotoxin-induced

sepsis, and is an immunostimulant, anti-proliferative and anti-sclerotic. Milk thistle seed flour and glycine may be used in health foods as an anti-tumour agent.

It is recommended for *jaundice, hepatitis B and C, spleen and kidney disorders, cervical* cancer, breast cancer, and to decrease side-effects that are usually formed by some medications. It was used to increase milk flow in nursing mothers and as a tonic for breasts.

In folk medicine, the plant is used for liver diseases (hepatitis) and gallbladder disease, and is claimed to protect the liver against poisons. Silibinin is used in cases of poisoning by amanitas, such as by the death cap mushroom, as well as for cerebral edema and acute hepatitis therapy. Its extract has antifungal effects, prevents the growth of dermatophytic fungi, and is a treatment for obsessive compulsive disorder and chronic migraines. Milk thistle is an excellent liver detoxifier. It also guards against alcohol-induced fatty liver disorders and hardens the liver.

- **Other uses**: The plant is edible. Young leaves, leaf base, young stems, and heads are used raw or cooked as a stew. Green branches are eaten fresh in salads. Silydianin is a plant growth regulator. The plant is grazable by camels and donkeys.
- ***Caution**: Nitrate poison may lead to a weak heart pulse and breathing difficulties.* Therefore, treatment with this plant should be medically supervised.

Plant population along the road

- **Arabic name**: Lfateh, Khardal Abeid, Khardal
- **Scientific name**: *Sinapis alba* L.
- **Common name**: White Mustard
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Mature seeds.
- **Chemical constituents**: Mucilage, proteins, fixed oil, sinalbin, a thioglycoside broken down into a non-toxic sulfur compound used in medicine and as a spice, flavonoids, glucosinolates, and an essential oil, of which the main constituents are thymol (53.3%), limonene (26.7%) carvacrol (3.6%), □-pinene (3.4%), ionone (3.4%) and □-bisabolene (2.4%). Proteins, glucoside, sinalin, meriosen yeast, dexistrose, hydroxybenzyl isothiocyanate, fixed oil, unsaturated fatty acids, and pseudo-alkaloid sinalin are also present.
- **Pharmacological action**: The seeds are sedative, excitant, analgesic, carminative, expectorant and stimulant. They are used in spices. Traditionally, the seeds are applied in cases of digestive complaints. Their infusion is useful in the treatment of chronic bronchitis, rheumatism, and muscular and skeletal pains (it stimulates circulation in the painful area). Externally, it is usually made into mustard plasters, poultices or added to bathwater. It can also be used for skin eruptions. Mustard tea is used for fevers and colds.
  White mustard has local rubefacient and irritant effects, and the crushed seeds are used externally to alleviate rheumatic pain. The seeds are antiseptic. The oil is rich in amino acids, and is digestive and stomachic. It is used for microbial infections as a skin lotion for pains and pimples, for the respiratory system and as a nerve stimulant. It is also hypertensive, used for muscle pains, arthritis, bronchitis, and rheumatism, and as a vascular stimulant.
- **Other uses**: It is an edible plant, and is used as a kitchen herb and in salads as a spice. Young stems and leaves are eaten raw in salads mixed with yoghurt, leaves are used in sauces and appetizers, and seeds are used in spices and pickles. The products obtained from the seed oil are suitable for human and animal consumption, and also for industrial applications. The plant is regarded as a wild flower.
- **Caution**: Toxicity symptoms in horses, cows and sheep include diarrhoea, bleeding, colic, kidney inflammation, haematuria, heart and respiratory system paralysis, recumbency, arched neck, salivation,

increases in haemoglobin levels, a rapid respiration rate and heart pulse, circular movements (in cows) and death.

- **Arabic name**: Khardal Barri
- **Scientific name**: *Sinapis arvensis* L.
- **Common name**: Charlock
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant, and seeds.
- **Chemical constituents**: Seeds contain sinigrin, the myrosin enzyme, acid sinapine sulphate, a fixed oil (25-30%) mostly made from unsaturated fatty acids, glycerides, protein, bitter pseudo-alkaloid and sinapine. In some species there are cyanogenic glycosides that release HCN. Aromatic oil results from degraded sinigrin glycoside by the myrosinase enzyme and releases the volatile oil allylisothiocyanate, and sinapic acid produces the familiar sinapis oil. Sinalbin and isothiocyanate alyl are released from sinigrin.
- **Pharmacological action**: The plant is used for rheumatism, coughs, eczema, and stomach aches, and is a laxative (whole seeds) and rubefacient (powdered seeds). It is also used for bronchitis and stimulates blood circulation. Sinapis oil in small amounts stimulates digestive system secretions, and it is used as a plaster for colds and as an ointment for ailment sedation. It cures headaches, induces menstruation and alleviates stomach aches. It is a remedy for hand eruptions, and is a digestive, appetizer and carminative. It is a purgative in high doses.
- **Other uses**: The plant is an edible kitchen herb. Young stems and leaves are edible raw and in salads as a spice to add flavour or as yoghurt salad. Mustard seeds are used in acrid mustard, like cultivated mustard, and as a spice; these products are appetizers that are commonly used by Europeans. The plant is also a wild flower.
- **Caution**: It can cause acute gastroenteritis and abdominal pains; large doses may be toxic, and may negatively affect stomach nerves, the intestines, and the urinary tract. It causes redness around the mouth and nose, intestinal ailments and diarrhoea.

Pod stage

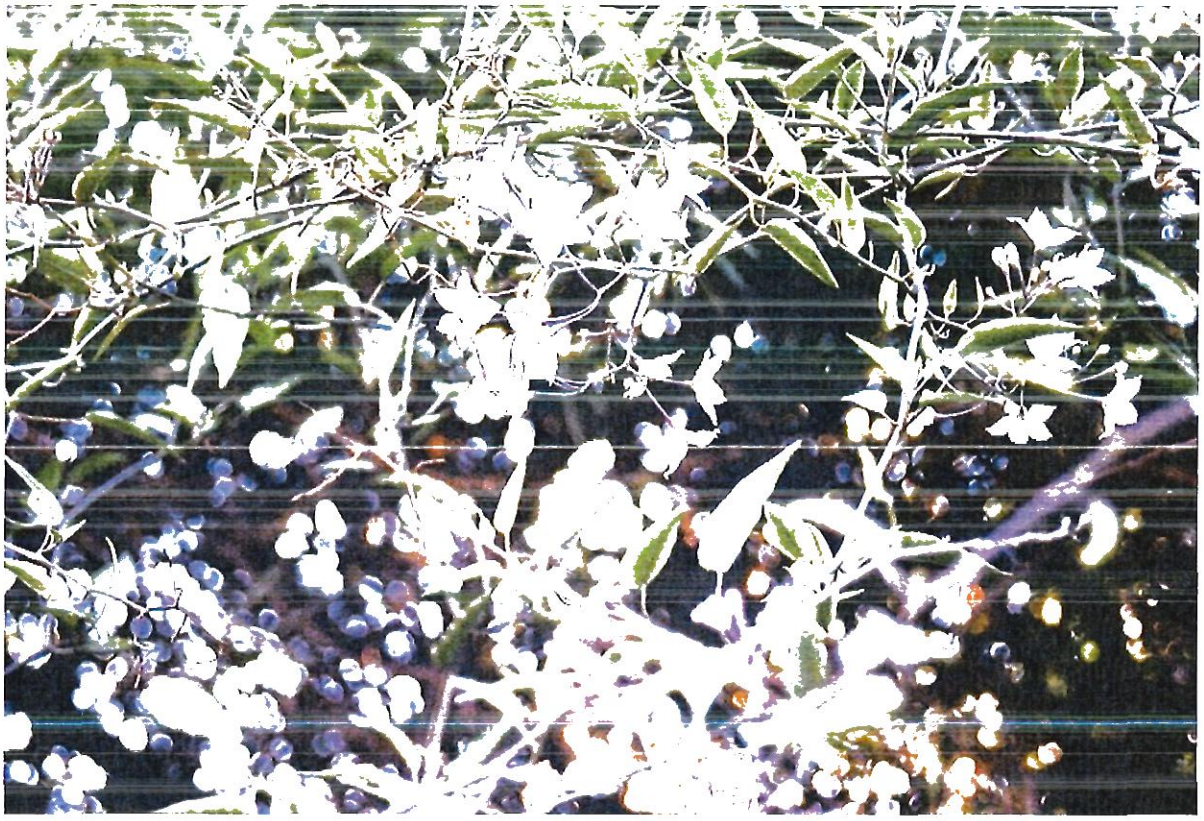
Spread in the field

- **Arabic name**: Hwairni, Fijl Al-Gamal, Kabs
- **Scientific name**: *Sisymbrium irio* L.
- **Common name** Mustard Rocket, London Rocket, Hedge Mustard, Shiltt Wild Mustard
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Seeds, leaves, and the whole herb.
- **Chemical constituents**: Glycosides, tannins, resin, mucilage, lactones, glycosonoles, nitril, thiocyanate, sinigrin, erucic acid, dioctyl adipate, N-(n-propyl) acetamide, isopropyl isothiocyanate, isobutyl isothiocyanate, 3, 7, 11, 15-tetramethyl-2-hexadecen-1-ol, cis-8, 11, 14-eicosatrienoic acid, acetamide, heptacosane, palmitic acid, n-butyl isothiocyanate and dimethoxyacetophenone. Fatty acid is present in seed oil, as well as mineral elements (sodium, potassium, calcium, magnesium, phosphorus, iron, copper, zinc and manganese), vitamin C, carotenoids, oxalic acid, □-sitosterol and its 3□-glucoside, and other flavonoids. The main constituents of the oil are palmitic acid (10.4%), menthol (6.7%), pentacosane (6.5%) and n-heptadecanol (5.2%). In addition, it includes menthol, 2-hexyl-1-decanol, cis-cyclohexan-1,1,2-trimethyl-3,5-bis(1-methylethyl), hexatriacontane, pentacosane, tricyclo-4,3,o,o,7,9-nonane,2,2,5,5,8,8-hexamethyl, oxirane, dodecyl, 2-hex,yl-1-decanol, nonadecanol, decahydro-9-ethyl-4,4,8,10-tetramethyl naphthalene, oxirane and tetradecyl.
- **Pharmacological action**: The plant is a cure for laryngitis, hoarseness, pharyngitis and cholecystitis. It is a stimulant, antiseptic and expectorant. The seeds are used for piles, dysentery, diarrhoea, bronchitis, pneumonia and asthma, and are also useful for ulcers, burns and persistent coughs. They are a skin rubefacient and vesicant. Powdered leaves are used for dandruff. The oil is included in cosmetics containing antioxidants to delay skin ageing. It is a febrifuge used for fever, chest congestion, rheumatism, as a liver and spleen detoxicant, and reduces swelling and cleans wounds. It is also ophthalmic and restorative. The seeds are externally used as a stimulating poultice, and have been placed under the lids of sore eyes in order to cause weeping and thereby wash foreign matter from the eye. An infusion of the leaves is used in treating affections of the throat and chest. It is a tonic herb with a mustard-like aroma. It has laxative and diuretic effects and benefits digestion.
- **Other uses**: The stems and young leaves are eaten raw or in salads. It is a spicy kitchen plant, hot when macerated and can be fermented in yoghurt. It is used as a base for a refreshing and cooling drink. The oil is

semi-drying and may be used as a lubricant in soap manufacturing. It is a common weed. The edible parts are the flowers, leaves and seeds, which can be used for a drink.
Immature leaves are eaten raw or cooked. They are used as greens. A famine food, it is only eaten when better foods are in short supply. The seeds are eaten raw or cooked, and can also be dried, ground into a powder and then mixed with water and used as gruel. The seeds can be mixed with water to make a drink. The plant is regarded as a wild flower and a common weed.

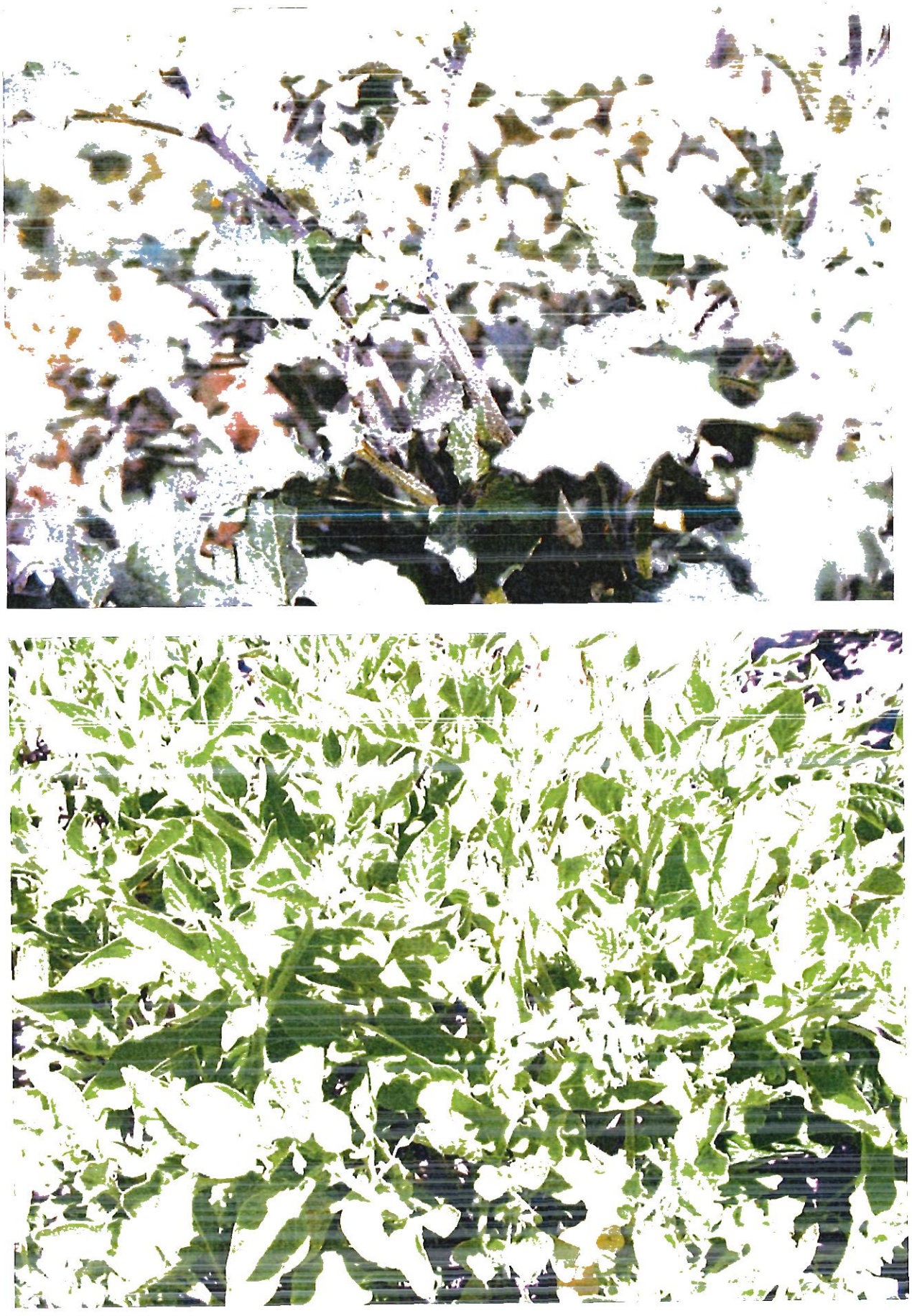
❖ **Caution**: Eating the plant causes severe flatulence that internally generates a large volume of gases in the stomach of ruminants that results in bowel explosions if these are not released from the cows through an opening made by a syringe inserted into the stomach from the skin's surface. Excess consumption may affect the heart.

- **Arabic name**: Esleih, Fijl Al-Gammal
- **Scientific name**: *Sisymbrium officinalis* (L.) Scop.
- **Common name**: Bank Cress, Hedge Mustard
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The aerial parts.
- Chemical **constituents**: Cardiac aglycons, sulfur compounds including glucosinolates such as sinigrin and primarily glucoputranjivine, isothiocyanates and sulfuric lactones are present in the mustard oil. Volatile oil, thiocyanic glycoside, glycosides, cardenolide glycosides, gluconapin, vitamins, ascorbic acid, and cardioactive steroid glucosides including corchorosid A, and helveticoside. In the aerial parts are mucilage, flavonoids, isothiocyanates, isopropyl isothiocyanate, volatile compounds, O-aglycones including 2-phenylethyl alcohol, 6, 7-dehydro-7, 8-dihydro-3-oxo-alpha-ionol, ethyl vanillate, 6-(tert-butyl)-5-methylphenol, ethyl 4-hydroxybenzoate, 2-hydroxy-beta-ionone, benzyl alcohol and eugenol.
- **Pharmacological action**: The plant is a diuretic, expectorant, tonic, febrifuge, anti-tussive, laxative, cardiotonic and antiseptic. It is used for bronchitis, stomach aches, hoarseness, and throat ulcers and pains. In folk medicine, herbalists use the plant's juice and flowers to treat bronchitis, stomach ailments, and airway ailments, among other uses. In Tibetan medicine, it is used to repress the symptoms of food poisoning. The whole plant is said to be anti-aphonic, stomachic and used in the treatment of pharyngitis and food poisoning. Sulfuric compounds induce sputum and mucus materials in the respiratory tracts.
- **Other uses**: Green parts of the plant are fermented in yoghurt and olive oil before or during flowering and used as appetizers. Small plants are eaten with olive oil and lemon juice. Young stems are edible fresh or cooked and have a cabbage-like taste. The seeds are also used raw or cooked and can be powdered and used as a flavour similar to mustard or added to soup, and the powder can be mixed with water and drunk. The plant is edible in salads and as a spicy, fermented, hot kitchen herb in yoghurt and as an appetizer. It is a wild flower and common weed.
- **Caution**: Excessive doses can affect the heart. The dried plant is almost inactive, so it should only be used when freshly harvested. It causes severe flatulence that internally generates large amounts of gas in the stomach of ruminants that leads to bowel explosions if not released.



- **Arabic name**: Fusha'a, Mudaidi Haya'a
- **Scientific name**: *Smilax aspera* L.
- **Common name**: Rough Bindweed, Sarsaparilla
- **Family name**: Liliaceae / Alliaceae
- **Growth habit**: Climber
- **Life cycle**: Perennial
- **Part/s used**: Root
- **Chemical constituents**: Sugars, choline, saponins, minerals, calcium, potassium, free fatty acids, tannins, flavonoid, sapogenins, and steroid saponins. The roots and stems contain a phenolic acid complex, the heteroside parillin and KNO_3, and phytosterols of the progesterone class.
- **Pharmacological action**: The plant is anti-rheumatic, antiseptic and antipyretic. It is used for psoriasis, eczema, colds, fever, asthma (smoke), blood cleansing, syphilis, barrenness and gout (as a root powder that is taken orally). The extract of the stems has a slight diuretic action, and that of the roots is pronounced. The root is alterative, demulcent, depurative, diaphoretic, stimulant and tonic. The plant is used for rheumatism, arthritis and to enhance digestive functioning. It balances male and female hormones. Its effect on the body is like the male hormone testosterone, and it is an important hair growth hormone.
  In folk medicine, it is recommended by herbalists as a remedy for the symptoms of premenstrual syndrome, impotence, and sexual infertility, and it regulates hormones' function and enhances body activities. It is a tonic and general body cleanser. The ripe fruits are used in the treatment of scabies.
- **Other uses**: The plant is used to make the sarsaparilla drink, other root beers, and herbal drinks. The roots may also be used in soups or stews. The young shoots can be eaten raw or cooked and are said to taste like asparagus. The berries can be eaten both raw and cooked. The main use of the plant is in flavouring drinks and juices. It is an ornamental species.
- **Caution**: Steroidal saponins such as sarsaporin, parallin, sarsasapogenin, and neotigogenin are of most concern.

- **Arabic name**: Enab Al-Deeb, Bandourat Al-Deeb
- **Scientific name**: *Solanum alatum* Moench.
- **Common name**: Red-berried Nightshade
- **Family name**: Solanaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant.
- **Chemical constituents**: Alkaloids.
- **Pharmacological action**: The plant has shown a protective effect against carbon tetrachloride (CCI4)-induced liver injuries. It decreased the elevation of the serum alanine aminotransferase and also decreased the extent of visible necrosis in liver tissue. Its treatment increased the concentration of hepatic GSH and maintained a high level of GSTase activity, leading to the acceleration of the excretion of toxic acetaminophen metabolites. The plant's aqueous extract has anti-inflammatory and hepatoprotective activities.
- **Other uses**: It is a common weed that may be regarded as a wild flower.
- **Caution**: It is a poisonous plant because of its solanine contents.



Plant population

- **Arabic name**: Bathinjan Barri Fiddy Al-Awraq, Bathinjan Barri
- **Scientific name**: *Solanum elaeagnifolium* Cav.
- **Common name**: Silverleaf Nightshade
- **Family name**: Solanaceae
- ***Growth habit***: *Herb*
- **Life cycle**: Perennial
- **Part/s used**: Leaves and fruits.
- ***Chemical constituents***: *Solasodine, glycoalkaloid solanine as well as the tropane alkaloids scopolamine* (hyoscine) and hyoscyamine.
- **Pharmacological action**: Solasodine is used in the manufacturing of steroidal hormones. It is used in the preparation of contraceptive and corticosteroid drugs. Plant extracts have shown cancer-inhibiting activity.
- **Other uses**: Macerated berries are added to milk during the production of cheese. Seeds combined with pith tissue are used in tanning. Plant extracts have shown molluscicidal and nematicidal activity. It is a noxious weed, wild flower and a poisonous plant.
- **Caution**: It is a genus in which some species may contain steroidal alkaloid glycosides, e.g. solanidine and tomatidine. Its steroidal alkaloid content depends on the time it is harvested, its ripeness and the part of the plant, e.g. solasodine, spirosolane and non-spirosolane types.
  Solanine poisoning is primarily displayed by gastrointestinal and neurological disorders. The symptoms include nausea, diarrhoea, vomiting, stomach cramps, burning of the throat, cardiac dysrhythmia, headaches and dizziness. In more severe cases, symptoms also include hallucinations, a loss of sensation, paralysis, fever, jaundice, dilated pupils, hypothermia and death. In large quantities, solanine poisoning can cause death. One study suggests that doses of 2 to 5 mg per kilogram of body weight can cause toxic symptoms, and doses of 3 to 6 mg per kilogram of body weight can be fatal. Symptoms usually occur 8 to 12 hours after ingestion, but may occur as rapidly as 30 minutes after eating foods with a high content of solanine.
  The species is also toxic to livestock; toxic alkaloids combine with sugars to produce glycoalkaloids that irritate the gastrointestinal tracts, and these compounds may be hydrolyzed to release alkaloids or alkamines that are nerve toxins. Cattle that consume 0.1% to 0.3% of their body weight in ripe berries display moderate

poisoning symptoms, which may include rapid, laboured breathing, salivation and slobbering, nasal discharge, a yellow discolouration of the skin in light-coloured animals, weakness and a lack of coordination, trembling of the muscles in the back legs, anaemia, and an increased heart rate. Sheep are more resistant to the toxins and goats are unaffected.

A spiny plant

Plant of white flower colour

- **Arabic name**: Bathinjan Barri, Ein Al-Baqar
- **Scientific name**: *Solanum incanum* L.
- **Common name**: Bitter Apple
- **Family name**: Solanaceae
- **Growth habit**: Sub-Shrub
- **Life cycle**: Perennial
- **Part/s used**: Fruits, seeds, and roots.
- **Chemical constituents**: Alkaloids including solanine, solanidine, rutoside, saponins, bitter glycosides and chlorogenic acid.
- **Pharmacological action**: It is a sedative plant. It is used for bruised fingers, warts, epilepsy, neural diseases, dyspepsia, earache, flatulence, haemorrhoids, toothache, skin ulcers, scabies, cancer, intestinal ulcers and weeping wounds. The root is chewed for abdominal cramps, and the fruit's juice is used to ease the extraction of foreign objects (e.g. thorns) from the body.
  In folk medicine, a root decoction is used for abdominal pains, fever and indigestion. An infusion of leaves is used for earache and the fruits are used for skin diseases.
- **Other uses**: It is a wild flower and a source of genes for plant breeding.
- **Caution**: The plant and its fruits are poisonous, and cause numbness, salivation, paralysis, headaches, vomiting, diarrhoea, a high temperature, dizziness, and the failure of heart and respiratory system functions.

Flowering stage

- **Arabic name**: Einab Al-Deeb, Enib Al-Tha'alab
- **Scientific name**: *Solanum nigrum* L.
- **Common name**: Black Nightshade
- **Family name**: Solanaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole herb, especially the fruits and seeds.
- **Chemical constituents**: Alkaloids; solanine alpha, beta and gamma, solanidine, solasonine, solamargine, demissine, pupil-dilating alkaloids, saponin, rutoside, chlorogenic acid, glycoprotein, glycoalkaloids, and solasodine hydrochloride.
- **Pharmacological action**: The plant is a laxative, cathartic, antispasmodic, diuretic, narcotic, sedative and cardiac tonic. Its leaves are used for fevers, colitis, asthma, eczema, ulcer and burns. The plant's juice is useful for constipation and acne. Glycoprotein induces apoptosis, and glycoalkaloids are a potential natural anticancer agent as a hepatoprotective; they are also an anticancer agent in folk medicine. The plant has strong scavenging activity against lipid peroxyl radicals, and its extract can inhibit the growth of tumour/cancer cells, particularly liver, lung and breast cancer cells.
  A fruit extract can be used as an anti-oxidant and chemopreventive material. Solasodine hydrochloride is also used for the treatment of neoplasm, asthma, and inflammations as oral medication or as an injection. It is hepatoprotective and weight gain promoter. The plant is an expectorant, fattening, and is used for bruised fingers, epilepsy, rottenness, paralysis, as a liver tonic, skin ulcers, scabies, warts, eye vision, breast pain, burns, and skin diseases. Plant formulations are used for neural diseases, paralysis, homeopathy, cholecystitis, fever, gonorrhoea, nephrosis, stomach aches, skin ulcers, rheumatism, neuralgia, backaches, breast pains, swollen legs, potential miscarriages, wounds and sunburn. It is anti-oxidative and antimicrobial. It is also used for inflammations, tumours and haemorrhoids, and as medicine for the liver, as a sedative narcotic and for erysipelas. A plant decoction is choleretic, cures edema, removes colic resulting from menstruation and cures impotence. The leaves are crushed and mixed in water, and the resulting extract is applied topically for washing painful eyes.
- **Other uses**: The whole plant is made into wine. Its berries may be eaten but their alkaloid concentration must be taken into consideration. Small, young leaves are also edible before flowering and are rich in minerals.

They are cooked as a vegetable. The plant is grown by farmers for such a purpose. Leaves boiled in fat are used for skin sores and scabies in animals. Glycoprotein is a molluscicide against *Lymnaea acuminata* and *Physa acuta*.

❖ **Caution**: The plant contains glycosidic steroidal alkaloids such as solanine. The alkaloid content in the leaves varies from 0 to 2% of the dry weight, and the unripe fruit's alkaloid content is 1.3% on average. All parts of the plant are poisonous, especially the fruits, and their ingestion may lead to hallucinations, severe intestinal disturbances, diarrhoea, drowsiness, numbness, dilation of the pupils, trembling, laboured breathing, nasal discharge, a rapid or weakened pulse, lack of coordination, paralysis or severe shaking of the rear legs and bloating; in some cases, poisoning can be fatal.
Solanine poisoning is primarily displayed in gastrointestinal and neurological disorders. Its symptoms include nausea, diarrhoea, vomiting, stomach cramps, burning of the throat, cardiac dysrhythmia, headaches and dizziness. In more severe cases, hallucinations, loss of sensation, paralysis, fever, jaundice, dilated pupils, hypothermia and death have been reported.
In large quantities, solanine poisoning can cause death. Symptoms usually occur 8 to 12 hours after ingestion, but may occur as rapidly as 30 minutes after eating foods with high solanine content.

Fruiting stage

Solanum cornutum Lam.

- **Arabic name**: Eillk Al-Ghazal, Qadeem
- **Scientific name**: *Sonchus maritimus* L.
- **Common name**: Sea Sow Thistle
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves, stem, juice, roots, and the whole plant.
- **Chemical constituents**: Sesquiterpene lactones, guaianolide, ionone glycosides, phenyl propanoids, steroles, phenols (flavonoids and coumarins), and lignans.
- **Pharmacological action**: The plant is used for bronchial infections with yellow phlegm, tonsillitis, and sore throats. In small doses it is used as a bitter tonic for spleen deficient patients with a sluggish liver.
- **Other uses**: The plant is used as dandelion. It is a wild flower.
- **Caution**: No reports.

The plant in the field

- **Arabic name**: Ju'idaid, Eillk Al-Ghazal, Lubain, Eillk Al-Khail
- **Scientific name**: *Sonchus oleraceous* L.
- **Common name**: Common Sow Thistle
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves, stems, roots and the whole plant.
- **Chemical constituents**: Sesquiterpenes, sterols, rubber, triterpenes, fatty acids, and amino acids, the major ones being glutamic acid (6.76%) and aspartic acid (5.49%). Carbohydrates, free sugars including arabinose, and arabinose, rhamnose and galactose are found in the polysaccharide hydrolyzate. Minerals include sodium, potassium, calcium, lead, phosphorus, iron and copper, vitamins A, E and C, and essential fatty acids. The volatile oil contains □-terpineol, heptanoic acid, geraniol, bornyl acetate, anethole, geranial, hexanoic acid, butanol, and unidentified components. The nonvolatile residue contains a triterpene identified as 3□, 25-epoxy-3-hydroxyolean-18-en-28-oic acid. The leaves contain scopoletin and esculetin in the coumarin fraction. Ceryl alcohol, □-amyrin and □-sitosterol are also present. The seed oil contains vernolic acid and disaccharide. Flavonoids such as luteolin, quercetin, quercimetrin, cynaroside, and isocynaroside are present.
- **Pharmacological action**: The plant is antioxidant, anti-scurvy, diuretic, a strong purgative and anthelmintic (roots). It is used for stomach ailments and liver diseases, and the juice is useful for deafness. The plant is effective for bronchial infections with yellow phlegm. The leaf juice is a cure for ulcers, bile and eye problems (in the form of drops). *Sonchus* also makes a good secondary herb in formulas for tonsillitis and sore throats. It is useful in small doses as a bitter tonic for spleen deficient patients with a sluggish liver. It is diuretic, laxative, a general tonic, abortifacient, anticancer, anti-diarrhoeal, antiphlogistic, blood purifier, tranquillizer, cathartic, clears infections, a cure for opium addiction, digestive, purgative, emmenagogue, emollient, febrifuge, gynaecological aid, cardiac medicine, hepatic, hydragogue, galactagogue, a narcotic

pectoral, a pediatric aid, refrigerant, sedative, anti-bleeding, a toothache remedy, an insecticide and a vermicide.

The plant is recommended for haemorrhoids, kidney stones, for the hands and legs, otitis, arthritis, colds and catarrh, and as a carminative. Its infusion is useful for diabetes, and it cleans and disinfects the body. It is antibacterial. A fresh leaves decoction is taken orally for body weakness and constipation.

- **Other uses**: The leaves and green parts of the plant are anti-oxidants. The fleshy young stems and young leaves are rich in minerals and vitamin C, and are edible and cooked or eaten raw in salads. It is a favourite food for rabbits and pigs. It is also used in veterinary medicine to alleviate fever, hypertension, and disturbed cardiac pulses.
- **Caution**: The plant is possibly toxic, as it may contain large quantities of nitrates. It is not for use during pregnancy. The overuse of stem juice as a cathartic can cause anal irritation and gastrointestinal cramping. Caution should be taken with a cold deficient spleen/stomach, as overuse results in disturbed digestion, colic and diarrhoea.

Flowering stage

- **Arabic name**: Quseib, Hashishat Johnson
- **Scientific name**: *Sorghum halepense* (L) Pers.
- **Common name**: Johnson Grass
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Seeds
- **Chemical constituents**: The diastereomeric flavonolignans tricin-4'-O-(threo-β-guaiacylglyceryl) ether and tricin-4'-O-(erythro-β-guaiacylglyceryl) ether, flavonolignans, hydrocyanic acid and other phenolic compounds.
- **Pharmacological action**: The seeds are demulcent and diuretic.
- **Other uses**: The plant is used as fodder for cattle, but in dry places it becomes tough and dangerous to animals, and most cattle died after being fed on it. It is also used for fuel purposes in houses.
- **Caution**: It is a highly toxic plant. The leaves and stems are poisonous, especially those of young plants. Their ingestion may lead to breathing difficulties, severe anxiety, convulsions, coma and death.

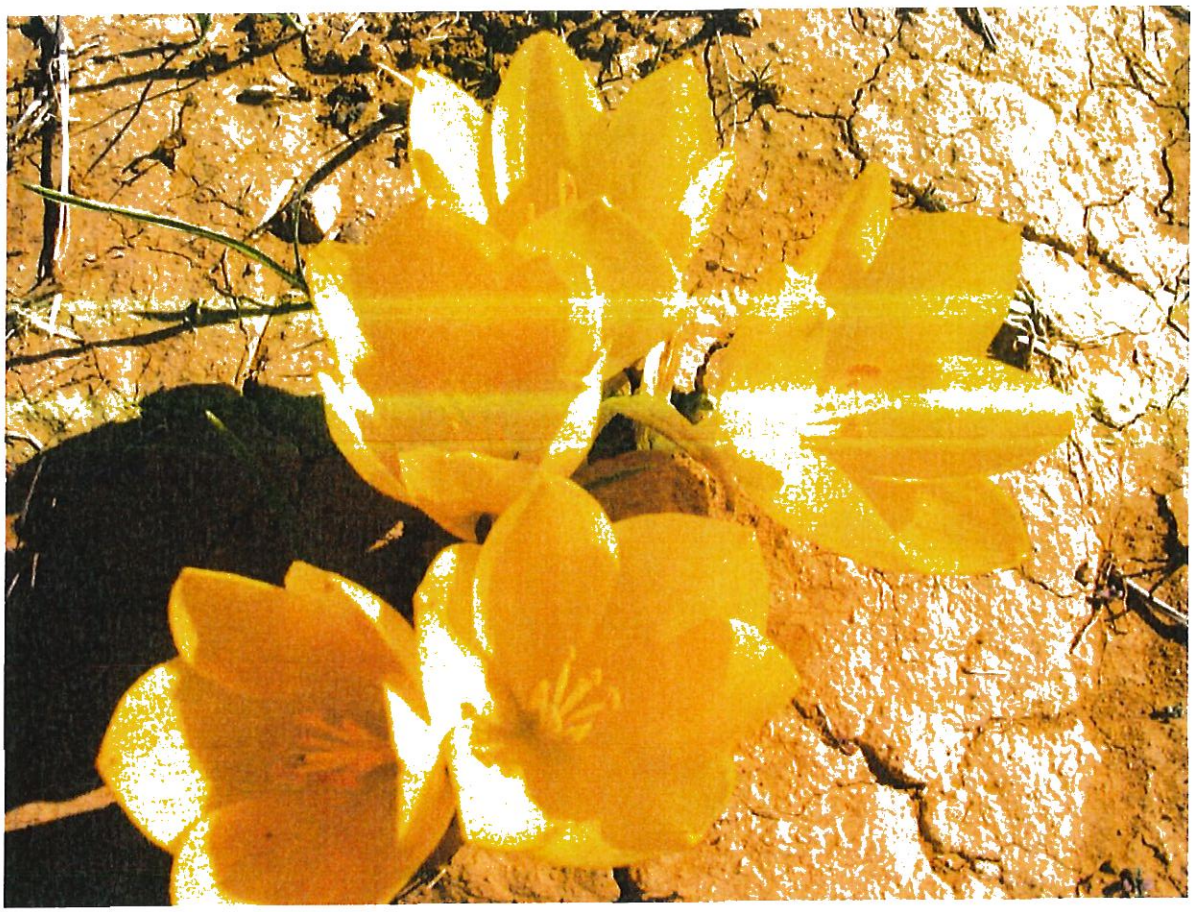
Population in the field

- **Arabic name**: Oshbah Hamrai, Um Thuraib, Abu-Ghali
- **Scientific name**: *Spergularia diandra* (Guss) Heldr.Et Sart
- **Common name**: Diandrous Spurrey
- **Family name**: Caryophyllaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant.
- **Chemical constituents**: Triterpene, saponin, and stearopten.
- **Pharmacological action**: The plant is an expectorant, sedative and diuretic. It is used for kidney stones and the inflamed mucus membrane of the bladder.
- **Other uses**: It is a weed.
- **Caution**: No reports.

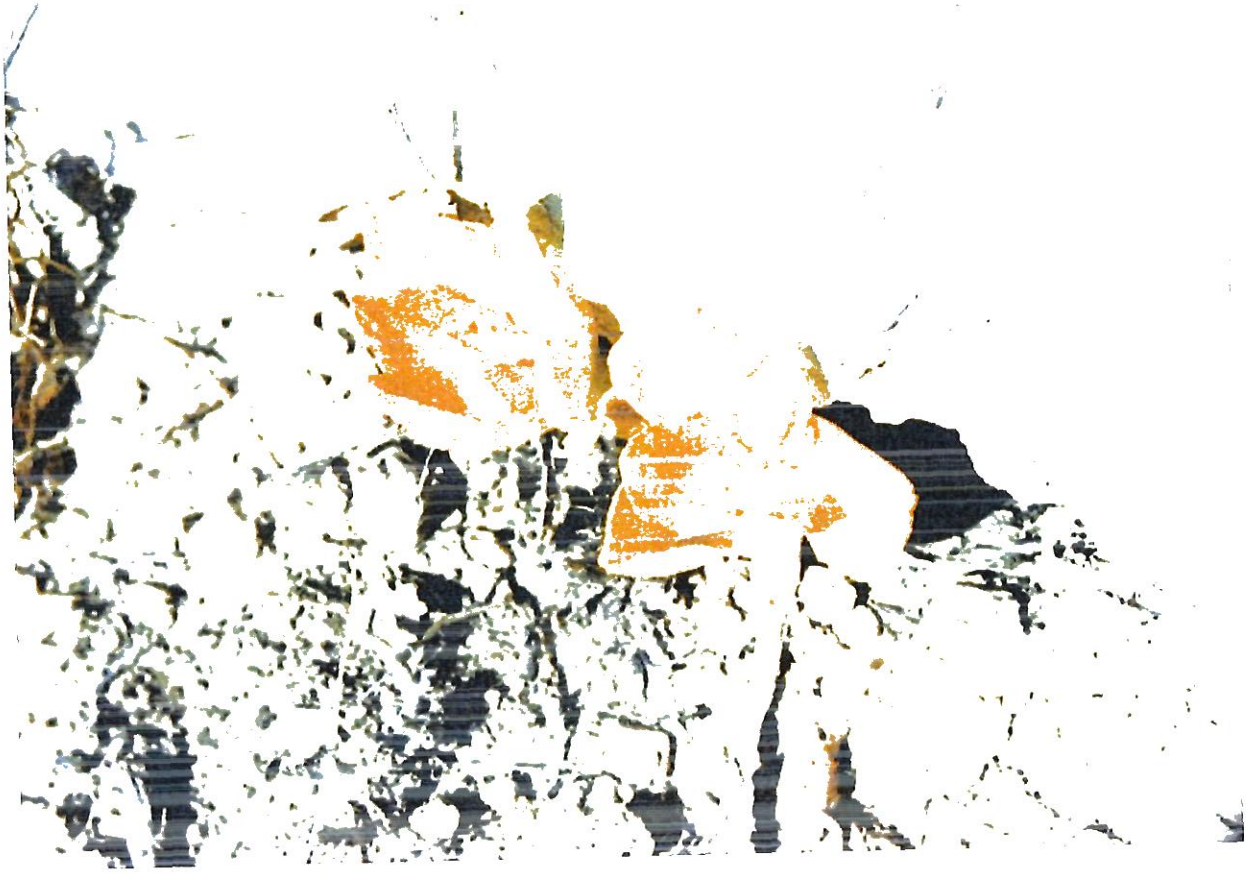
- **Arabic name**: Qazazah, Najmiya
- **Scientific name**: *Stellaria media* (L.) Vill
- **Common name**: Common Chickweed, Starweed, Chickenwort, Craches, Maruns, Winterweed.
- **Family name**: Caryophyllaceae
- **Growth habit**: Herb
- **Life cycle**: Annual or Biennial
- **Part/s used**: The whole plant, vegetative parts, the fresh extract, and roots.
- **Chemical constituents**: Saponins, fatty oil, silicic acid, coumarins, flavonoids, triterpenoids, carboxylic acids, phenolic acids, glycosides, phenol-glycosides and C-glycosylflavones. In addition, vitamins including vitamin C, mucilage, silica, and mineral elements, of which the most important are calcium, magnesium, phosphate, nitrate, and potassium, are present.
- **Pharmacological action**: It is antipruritic, vulnerary and emollient. The plant is used for rheumatism, as an ointment in cases of eczema, psoriasis, and indolent ulcers, as an anti-ageing agent, in cosmetics containing plant extracts that prevent oral viral infections, and in health foods. The infusion is used for sores, skin affections and blood disorders.
  The plant is used as a poultice for cuts and bruises. It cools inflammation, speeds healing for internal or external flare-ups, and is applied to minor burns, skin irritations, and rashes, particularly when associated with dryness and itching. It alleviates symptoms of coughs and colds, helps with the removal of body toxins, is a blood purifier and dissolves plaque in blood vessels. The herbal tea is used for obesity, as a tonic and for blood cleansing. Chickweed is a gentle laxative.
  In folk medicine, the plant is used as a remedy for scabies and skin diseases, bronchitis, arthritis, and period pain. Its infusion is employed for ulcers, skin infections and blood disorders. The plant's decoction or infusion in oil is used for fever resulting from chronic diseases, is anti-cough, vulnerary, sedative, antiseptic and emollient, and is used for ulcers, anti-ageing and in senescence. The plant extract is incorporated in cosmetic formulations and prevents mouth infections and foodborne viral infections. A fresh leaves' paste is applied topically to swollen joints and broken bones.
- **Other uses**: The seeds are food for finches and many other birds. The plant is edible like spinach and rich in vitamin C. It is used in spring salads and teas. Fresh chickweed can be eaten in summer salads, and can also be fed to domestic pets to assist in the expulsion of hairballs and soothe the digestive tract.

❖ **Caution**: Generally, the plant is considered a safe medicinal food; the leaves are consumed and the saponins are poorly absorbed. Large amounts of chickweed have a laxative effect.

A dense population



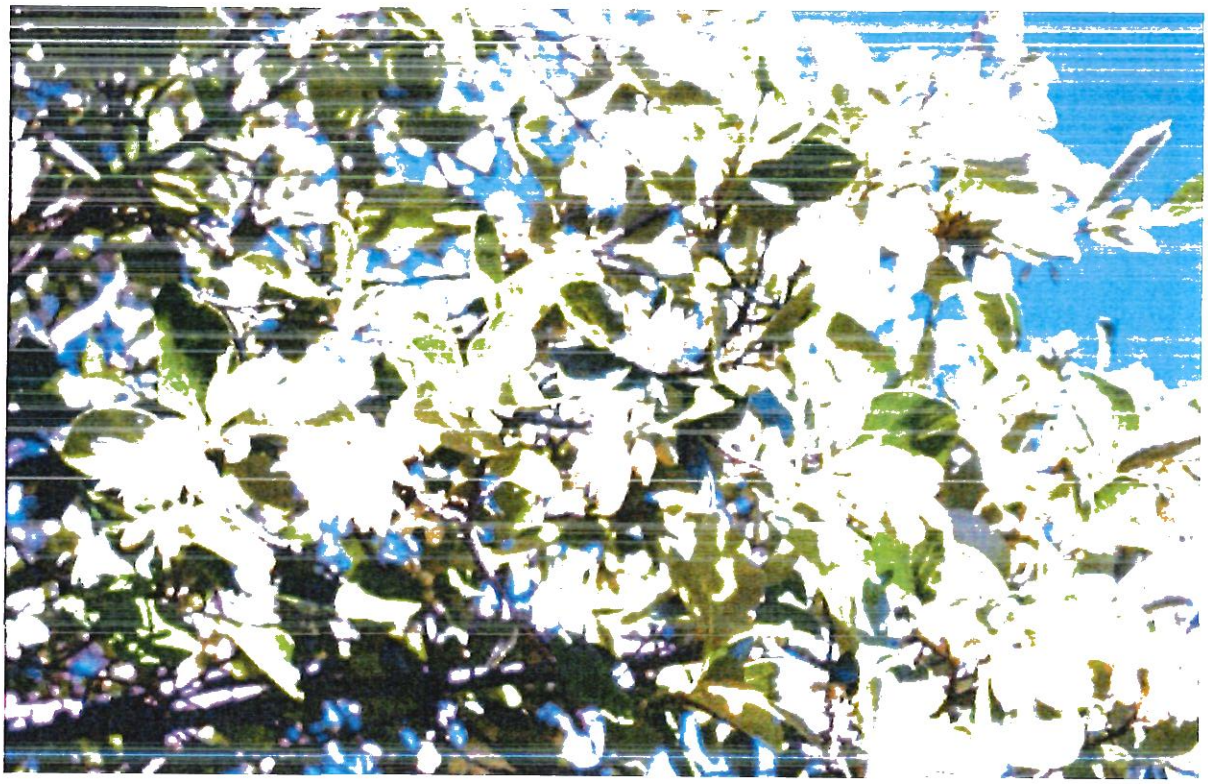
- **Arabic name**: Shuhaim
- **Scientific name**: *Sternbergia clusiana* ker-Gawler
- **Common name**: Oporanthus, Large Sternbergia
- **Family name**: Amaryllidaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Bulb, and the whole plant.
- **Chemical constituents**: Alkaloids, lectin, phenolic acids and lycorine.
- **Pharmacological action**: The plant possesses important biological activities including anti-tumour, antiviral and acetylcholinesterase-inhibitory activity. It is used for Alzheimer's disease, and analgesic and antimicrobial activities have been reported for its extracts and alkaloids.
- **Other uses**: A wild flower.
- **Caution**: It is a poisonous species because of the alkaloid content. Some species in this genus may contain Amaryllidaceae alkaloids like lycorine, sternbergine, hippamine and others.



Sternbergia spp.

In the field

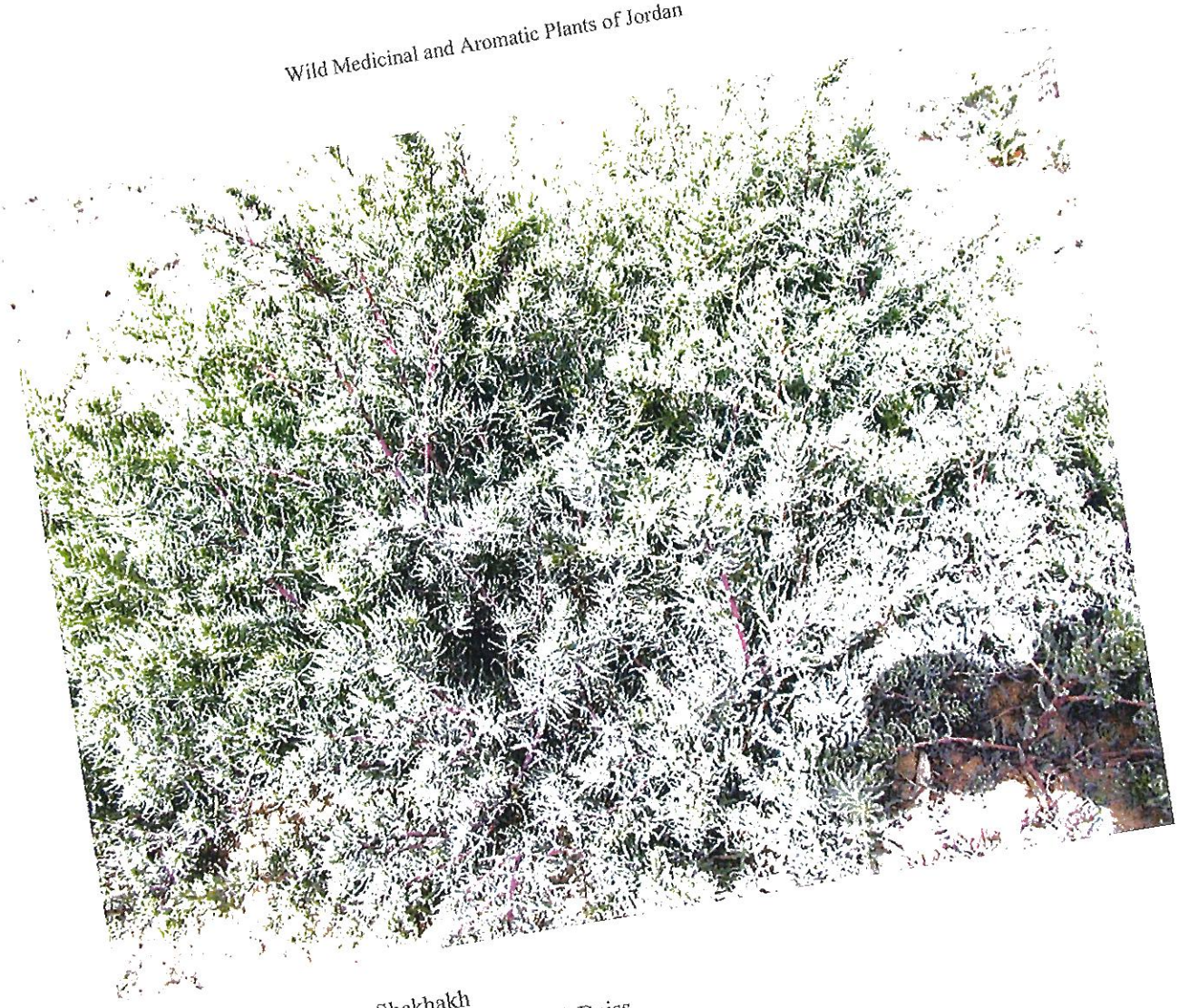
- **Arabic name**: Al-Azm Al-Lahawi, Azim Lehawi
- **Scientific name**: *Stipa barbata* Desf.
- ***Common name***: Silver Feather Grass
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves and seeds.
- **Chemical constituents**: Fibres, crude protein, and ash.
- **Pharmacological action**: The seeds and leaves are astringents, so a decoction of these is given as a suppository for dysentery, and is also dropped into purulent ears. Its leaves are applied to help bloodshot eyes caused by a stroke, and to stop excessive bloody discharges.
- **Other uses**: It is used as an ornamental plant in home gardens, and soft brooms are made from the aerial foliage. The plant is a wild flower.
- **Caution**: Spike awns may cause inflammation to mucus tissues in the nose and mouth.



- **Arabic name**: Estarkk, Abhar
- **Scientific name**: *Styrax officinalis* L.
- **Common name**: Storax, Storax Tree, Stacte
- **Family name**: Styracaceae
- **Growth habit**: Tree
- **Life cycle**: Perennial
- **Part/s used**: Gum or resin obtained from the wood (storax), and plant extract.
- **Chemical constituents**: Storax resin, benzofuran, benzofuran glycosides, saponin and sapogenin, the lignan styraxin, a steroidal glycoside, triterpene saponins named styrax-saponin A-C, egonols, and oleic, linoleic, lauric, palmitic, stearic, arachidic and linolenic acids in seed oil.
- **Pharmacological action**: It provides anti-acidic gum. Linoleic acid is said to have an important role in membrane lipid formation, and in prophylaxis for arteriosclerosis. Extracts showed some anti-tumour activity, and the stems' resin is antiseptic and expectorant. It helps with healing damaged skin, has a soothing effect on the lungs, and assists with asthma. It is a local narcotic, and expectorant, diuretic, and carminative. Balsam styracis is supposed to help remove cellulitis, sties, and boils, and also degrade lymphatic deposits, reduce inflammation and enhance the mood.
- **Other uses**: Storax is used in perfumes since it is rich in esters of cinnamon acid. The seeds' powder is used for poisoning sea fish.
- **Caution**: No reports.

Fruiting plant

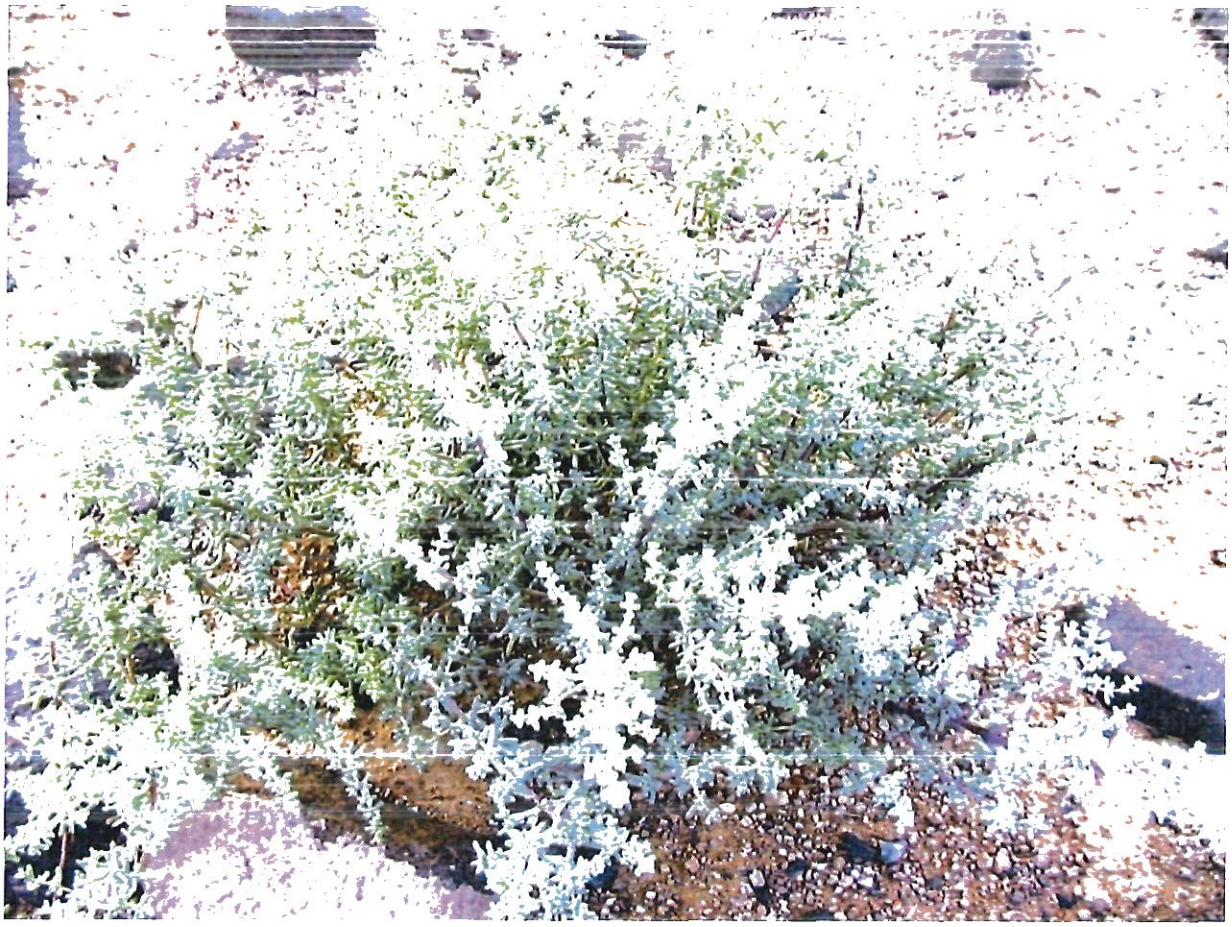
- **Arabic name**: Suaeda, Shakhakh, Sabta, Muleih, Rejla, Suwaid, Tartir
- **Scientific name**: *Suaeda aegyptiaca* (Hasselq) Zoh.
- **Common name**: Sea Blite
- **Family name**: Chenopodiaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Aerial parts.
- **Chemical constituents**: Phenols, terpenoids and alkaloids.
- **Pharmacological action**: The plant is antibacterial, antifungal and antioxidant. It is used for tooth and gum infections. Its snuff is used for dizziness, headaches, hysteria, nausea, the nervous system and sight.
- **Other uses**: Its leaves are used in salads, especially the young leaves. An ethanol extract had an inhibitory effect on *Staphylococcus aureus*, *Staphylococcus epidermidis*, and *Klebsiella pneumoniae*. It is a very common forage species.
- **Caution**: No reports.



- **Arabic name**: Suaeda, Shakhakh
- **Scientific name**: *Suaeda asphaltica* (Boiss) Boiss.
- **Common name**: Sea Blight
- **Family name**: Chenopodiaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Vegetative parts and ash.
- **Chemical constituents**: Alkaloids.
- **Pharmacological action**: It is an antioxidant.
- **Other uses**: Ash is a source for sodium carbonate, which is used in glass manufacture. It is a common forage plant.
- **Caution**: No reports.

- **Arabic name**: *Suaeda*
- **Scientific name**: *Suaeda palaestina* Eig & Zoh.
- **Common name**: Common Reaumuria
- **Family name**: Chenopodiaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Vegetative parts and ash.
- **Chemical constituents**: Saponins and alkaloids.
- **Pharmacological action**: The plant possesses antioxidant activities.
- **Other uses**: Once it has been burned, the ashes are processed as a source for sodium carbonate for use in glass-making. It is a forage plant and a very common species.
- **Caution**: No reports.

- **Arabic name**: Suaeda
- **Scientific name**: *Suaeda vera* Forssk ex J.F.Gmel
- **Common name**: Shrubby Sea Blite
- **Family name**: Chenopodiaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Vegetative parts and ash.
- **Chemical constituents**: Alkaloids and saponins.
- **Pharmacological action**: The plant is an antioxidant.
- **Other uses**: The plant is burned and the ashes are processed as a source for sodium carbonate for use in glass-making. It is a common forage species.
- **Caution**: No reports.



- **Arabic name**: Suaeda, Shakhakh
- **Scientific name**: *Suaeda vermiculata* Forsskal Ex J.F. Gmelin
- **Common name**: Sea Blite
- **Family name**: Chenopodiaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: The whole plant, vegetative parts, and seeds.
- **Chemical constituents**: Alkaloids and saponins.
- **Pharmacological action**: The plant has antiasthmatic, antimicrobial and antifungal effects.
- **Other uses**: The plant's extract has antifungal activity against *Candida albicans* and *Fusarium oxysporum*. It is a common weed.
- **Caution**: No reports.

Suaeda spp. in a saline habitat

Suaeda sp.

- **Arabic name**: Samphota, Samphtonia, Staiphon
- **Scientific name**: *Symphytum palaestinum* Boiss.
- **Common name**: Comfrey, Palestine Comfrey
- **Family name**: Boraginaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, roots and aerial parts.
- **Chemical constituents**: Alkaloids, allantoin, symphytocynoglossin, choline, consolidin, starch, mucilage, sugars, tannins, pyrrolizidine alkaloids (especially in the root), saponin materials, steroids, and protein, and the aerial parts are rich in allantoin, vitamin B_{12}, vitamin K and nitrate.
- **Pharmacological action**: It is vulnerary, antiseptic, demulcent, anti-haemorrhagic, anti-rheumatic, antiphlogistic, astringent and tissue restorative. It is used for gastric and duodenal ulcers and arthritis. It is scar-healing, emollient and a mild sedative. It also heals sores, bruises, abrasions and burns. Both the leaves and the roots are used externally in cases of fractures, contusion injuries, sprains, strains, thrombophlebitis, mastitis, haematoma and respiratory tract diseases. A root decoction is effective against dyspepsia and dry coughs. The plant is also used for psoriasis, ulcers and bleeding.
- **Other uses**: The leaves and young stems are edible as vegetables as they are rich in minerals and vitamins. For vegetarians, numerous recipes are offered for the preparation of comfrey salad, spinach soufflés, soups, bread, rolls, and root beverages.
- **Caution**: It is a genus in which some species may contain toxic unsaturated pyrrolizidine alkaloids. The possible risk associated with the consumption of *Symphytum* in humans has been repeatedly reported, and several cases of intoxication attributed to *Symphytum* and comfrey have been described. It has been reported to cause serious liver damage if taken in large amounts over a long period. Acute toxic effects have been detected in rats and goats. Rats that were given the root drug or a mixture of the alkaloids intermedine and lycopsamine (which are also contained in comfrey) for a longer period showed insulinoma tumours of the pancreas, liver adenomas, hemangioma endothelial sarcoma, and tumours of the bladder.

- **Arabic name**: Eithyl Adeem Al-Awraq, Tarfa'a, Eithyl
- **Scientific name**: *Tamarix aphylla* (L.) G. Karsten
- **Common name**: Athel Tamarisk, Athel Pine, Athel Tree, Saltcedar.
- **Family name**: Tamaricaceae
- **Growth habit**: Tree
- **Life cycle**: Perennial
- **Part/s used**: The whole plant, leaves, bark, and young branches.
- **Chemical constituents**: Tamarixellagic acid, ellagitannin, triterpene, isoferulylglyceryl ester, alkaloids, flavonoids, tannins and other polyphenolic compounds. It also contains a sulphated kaempferol 7,4'-dimethyl ether, quercetin isoferulyl glucuronide from the flowers, and flavonoid glycoside. In addition, the active polyphenol juglanin (an isomer of corilagin), gallic acid, dehydrodigallic acid, flavonoids, tamarixin and polyphenols are present.
- **Pharmacological action**: It is antimicrobial, used for childbirth, fever, headaches, sores and wounds. The galls and the bark are astringents and bitter.
  In folk medicine, it is used for jaundice, bad evils, rheumatism, wounds and abscesses. A butter and vaseline formulation of the plant's powder is used to cure mycotic or allergic dermatitis, and it is astringent and effective for eczema capitis. An extract of *T. aphylla* has antifungal and antibacterial effects, and topical anti-tumour and nematicidal activities. A leaf powder is used to treat toothache, and the leaves' smoke is used for wound healing and has antiphlogistic action. The plant is an antioxidant.
- **Other uses**: The bark of hardwoods is potentially of great value for use in industry. It is used in the treatment of camel skin diseases.
- **Caution**: No reports.

- **Arabic name**: Ethil, Tarfa
- **Scientific name**: *Tamarix pentandra* Pall.
- **Common name**: Tamarisk
- **Family name**: Tamaricaceae
- **Growth habit**: Tree
- **Life cycle**: Perennial
- **Part/s used**: Bark, new branches, fruits, and leaves.
- **Chemical constituents**: Tannin. The green leaves contain tamaraxin and isoquercitrin; the flowers contain quercetin and flavonoids; and the salt glands contain sodium, potassium, calcium, magnesium and tannins.
- **Pharmacological action**: *Tamarix* spp. are hepatotonic and stimulant. The plant is used for fever, headaches, sores and wounds. Tamarisk can be used to control the insect vector of leishmaniasis. One of the products controlling the vector of this disease is from *Tamarix aphylla.* It is used for skin diseases, leucorrhoea, and intestinal colic. It is also used in eye and mouth drugs, for diarrhoea and tumours, and the ash is used for dry wounds. The plant is astringent. A green leaves decoction cures diarrhoea, and a decoction of dried leaves or fruits eases birth. The fruits have long been used in herb medicine for fattening and as a cure for slimness. Young green macerated leaves cure sunstroke when applied in a bandage around the head. Bark powder, when combined with other herbs, cures eczema, and a bark decoction is a tonic for the stomach and digestive system.
- **Other uses**: Certain species (*T. aphylla*) are very often cultivated for shade, others produce galls containing 40% tannin, and some are used for carpentry and constructing buildings. It is a common forest tree, mainly in saline habitats.
- **Caution**: No reports.

- **Arabic name**: Tarfa
- **Scientific name**: *Tamarix tetragyna* Ehrenb.
- **Common name**: Tamarisk
- **Family name**: Tamaricaceae
- **Growth habit**: Tree
- **Life cycle**: Perennial
- **Part/s used**: Galls, bark, young branches, and leaves.
- **Chemical constituents**: Tannin, protein, fibres, and mineral elements.
- **Pharmacological action**: The plant has hepatotonic and stimulant properties. The galls of certain species are used in toothpaste for polishing and removing the decayed parts of teeth, as well as for halitosis and general protection of the mouth. It is also used for haemorrhages, skin diseases, diarrhoea, dysentery, eyes and dentifrices.
- **Other uses**: The wood is used in the construction of homes in simple villages. It is a salt-tolerant forest tree.
- **Caution**: No reports.

- **Arabic name**: Tarkhashqoon, Tarakhoon
- **Scientific name**: *Taraxacum megalorrhizon* (Forsskal) Hand.
- **Common name**: Dandelion
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Roots, stems and flowering heads, and leaves before flowering.
- **Chemical constituents**: Sesquiterpenes, saponins, and phenolic compounds.
- **Pharmacological action**: The plant is a bitter tonic, stomachic, cholagogic, nutritive and a strong diuretic. Its infusion stimulates the appetite, helps digestion, and is used for biliary and liver disorders, dropsy, rheumatism, and arthritis. The leaf or stalk juice is effective as a cure for warts, and boiled flowers are used for coughs. The roots have been used to fight anaemia because they contain iron, calcium and trace minerals. The plant is an ideal laxative, and is helpful in treating poor circulation, bowel inflammation and stomach disorders. It is also beneficial for lowering blood pressure.
- **Other uses**: The leaves are eaten raw or roasted after being dried, and ground roots make a caffeine-free coffee substitute.
- **Caution**: No reports.

- **Arabic name**: Tarakhoon, Tarkhashkoon, Asnan Al-Assad, Asnan Al-Kalb, Tarkhashqoon Makhzani
- **Scientific name**: *Taraxacum officinale* Weber
- **Common name**: Common Dandelion, Dandelion
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- ***Life cycle***: *Perennial*
- **Part/s used**: Roots, flowering stems, leaves before flowering, flowering heads with flowering buds, and the whole plant.
- **Chemical constituents**: A phenolic compound, volatile oil, vitamins A, B, C, D and E, ascorbic acid, sesquiterpene lactones (bitters), taraxinic acid (taraxacin), lactucerol, caryl alcohol, taraxine, taraxerine, taraxacin tetrahydroridentin B, triterpenoids, sterols, taraxasterol, taraxerol, cycloartenol and beta-sitosterol. *It also contains tannins, sugar, alkaloids, pectin, inulin, starch, potassium, beta-carotene, menthol, caffeic* acid, flavonoids (apigenin), asparagine, phenolic acids and quercetin glycosides in the roots. Essential oil, choline, resin, fatty oil, folic acid, calcium, potassium, phosphorus, sodium, sulfur, iron, and metaphen diastase are also present. In roots, inulin, fixed oil, tannins, organic acid and beta-sitosterol are present.
- **Pharmacological action**: The plant is diuretic, laxative, cholagogue, anti-rheumatic, anti-diabetic and antibacterial. It is used for kidney and gallstones and jaundice. Externally, it is an ophthalmic, and is effective in removing dark circles and swellings around the eyes in a mixture with other herbs. It is frequently used as a remedy for women's diseases (e.g. breast and uterus cancer) and liver, spleen and gallbladder disorders. It is anti-tumour, reduces the growth of cancer cells, and enhances recovery and immunity. It is included in anti-cholesterol compounds, cures arthralgia and anorexia, and is analgesic, an appetizer, astringent, depurative, digestive and a cure for urinary disorders. It is also used for constipation. The root is used for tuberculosis and thyroidal gland swellings. The leaves' juice is used for skin diseases, eczema, and as a galactagogue, and internally for blood circulation and diabetes disorders. It is also used for nephritis, blood cleansing, as a sedative, and gout ailments in muscles and joints. *It is a general body stimulant, antipyretic, anti-dysenteric,* and used for furuncles and pimples.

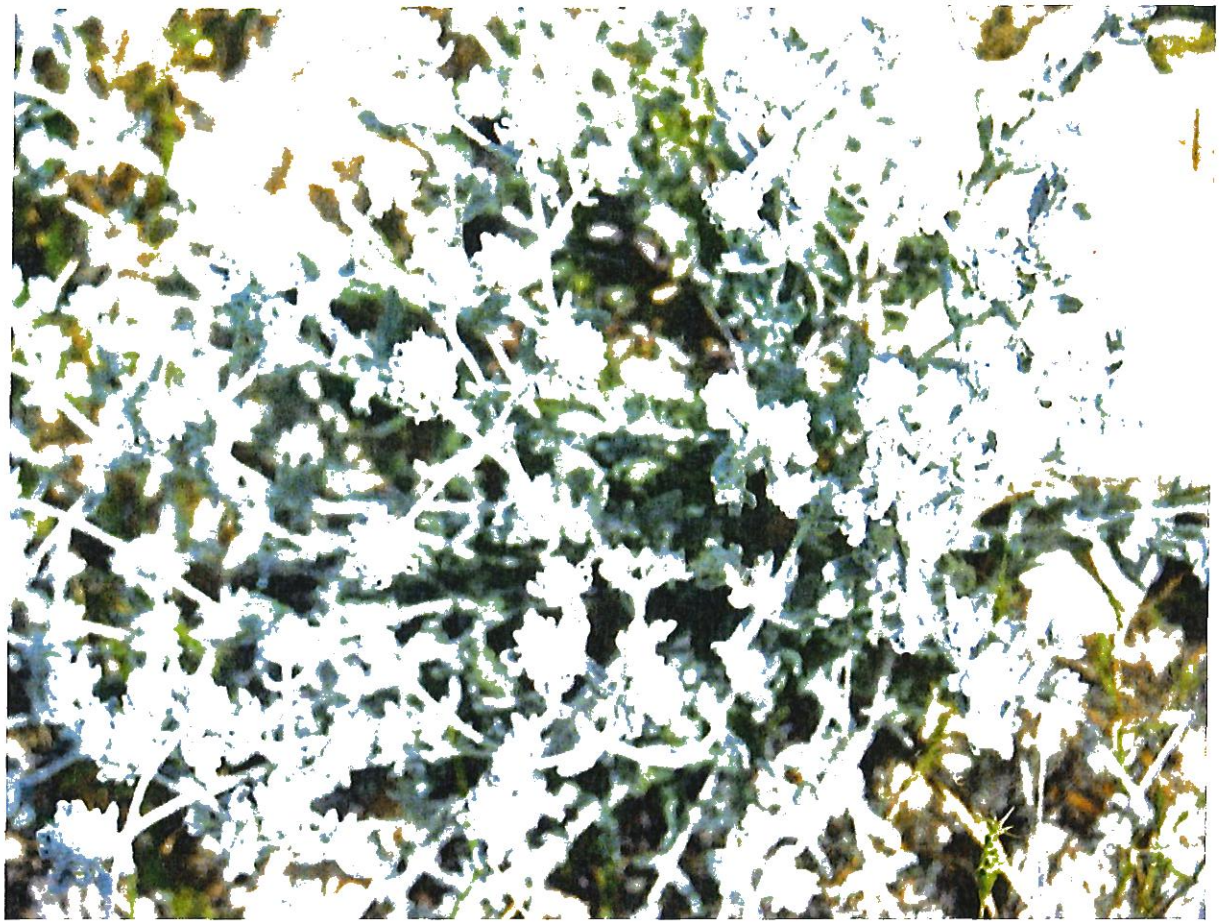
  The plant is a bitter tonic, stomachic, cholagogic and nutritive. Its infusion aids digestion, and is used for biliary disorders, dropsy and arthritis. The juice of the leaf or stalk is an effective cure for warts, boiled flowers are used for coughs and the roots help to fight anaemia because they contain iron, calcium and trace minerals. They are also helpful in treating poor circulation and bowel inflammation and are beneficial for lowering blood pressure. Dandelion root is hepatoprotective and the plant is used for cholecystitis and cirrhosis.

In folk medicine, dandelion has been used to increase the amount of urine produced in order to get rid of excess fluid. Dandelion may help to normalize blood sugar levels, lower triglycerides and raise HDL, and it might help fight inflammation. A fresh rhizome decoction is taken orally to treat jaundice.

- **Other uses**: The plant is widely used in food because of its richness in minerals and bitters. The leaves are eaten raw and made into vitamin-rich salads, and the flower-heads are made into wine. Dried, roasted and ground roots make a caffeine-free coffee substitute. Dandelion flowers are used to make a honey substitute syrup with added lemon, and are believed to have medicinal value, in particular against liver problems. The milky latex has been used as a domestic mosquito repellent.
- **Caution**: No reports.

The plant in its natural habitat

- **Arabic name**: Seiba'a, Jalathon
- **Scientific name**: *Tetragonolobus palaestinus* Boiss. and Blanche
- **Common name**: Palestine Winged Pea, Purple Winged Pea
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Pods, seeds, and vegetative parts.
- **Chemical constituents**: Isoflavan phytoalexins, protein, gum, phytoalexins, and isoflavan.
- **Pharmacological action**: The plant is rich in protein, strengthens the body and helps in cell building. The plant's gum has many uses in drugs and as an antioxidant.
- **Other uses**: Young and mature pods are edible raw and boiled. The plant produces a juicy, sweet-tasting pea.
- **Caution**: No reports.



- **Arabic name**: Ja'deh
- **Scientific name**: *Teucrium polium* L.
- **Common name**: Cat Thyme, Poley
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Branches, leaves, and the whole herb except the woody parts.
- ***Chemical constituents***: Flavonoids, carbohydrates (glucose, fructose, sucrose, rhamnose, raffinose), unsaturated sterols, triterpenes, flavones, glycosides, bitters, gum, essential oil and sesquiterpenes. Germacrene D and □-caryophyllene are the main components in the extract and oil, respectively. The oil contains 37 components, of which the major constituents are □-pinene (18.0%), □-caryophyllene (17.8%), □-pinene (12.0%), caryophyllene oxide (10.0%), myrcene (6.8%) and germacrene-D (5.3%).
  The volatile oil of *T. polium* subsp. valentinum contains □-pinene (15.8%), sabinene (7.2%), □-pinene (11.7%), trans-pinocarveol (4.3%), terpinen-4-ol (4.5%) and □-bisabolene (2.5%) as its major constituents. Furocoumarins, alkaloids and sesquiterpene lactone neoclerodanes, 7-epicapitatin, quassimin, 6-acetyl-19-deacetylmontanin F, along with the known 6-acetylmontanin F, tannins and bitter compounds were isolated from *T. polium*'s aerial parts. Phenylpropanoid, neoclerodane diterpenoids, podophyllotoxin, sesquiterpene, and abietane diterpenoids are present in the root.
- **Pharmacological action**: It is a febrifuge, hepatic, antipyretic, anthelmintic, hypoglycaemic and vulnerary. The plant has antioxidant activity, as well as anti-diarrhoeal and anti-bacterial effects. It facilitates digestion and acts as a disinfectant. It is used for kidney and intestinal pain, colds, stomach aches, liver disorders, diabetes, inflammation, wounds, fever, abscesses, haemorrhoids, high blood pressure, abdominal pain, childbirth, insect bites and jaundice. In addition, it is a cure for stomach and intestinal ulcers, and is useful in thyroid gland swelling and a tonic for the neural system and blood circulation. The plant is also used for arthritis and alleviates psychological and neural stresses. It is a cure for mouth ulcers and inflammation, toothache, coughs, asthma, and female impotency; it also enhances sexuality, is liver cleansing, choleretic, a detoxicant (scorpion and snake poisons), an appetizer, diuretic, and anti-spasmodic. The roots are used for diabetes and eczema, as a tonic, and as a cure for skin diseases (itching, psoriasis, eczema).

In folk medicine, a tea made from the leaves cures wounds, exanthema, fevers, malaria and cholera. Dried leaves are smoked to treat rheumatism and are an insect repellent. The oil is used as a cure from lichen alopecia.

- **Other uses**: A leaves decoction is used as a tea with hypoglycaemic properties. The plant is a wild flower.
- **Caution:** It is a genus in which some species are known to contain furanoneoclerodane diterpenoids, e.g. teucrin A, in the aerial parts, including *T. polium*. Human hepatotoxicity has been described for these species, as furanoneoclerodanes are hepatotoxic when activated.

The plant is safe for aged persons but not for pregnant or lactating women. It is safe at recommended doses; however, medical advice is necessary before its use as a medicine. The herb may cause some stomach disorders and diarrhoea. In such cases the dose must be reduced or the treatment should be stopped. If the symptoms persist then the patient should seek medical advice. The plant may cause serious damage to the liver, appearing through symptoms such as narcotic spots, asthenia, drowsiness, stomach pain and jaundice.

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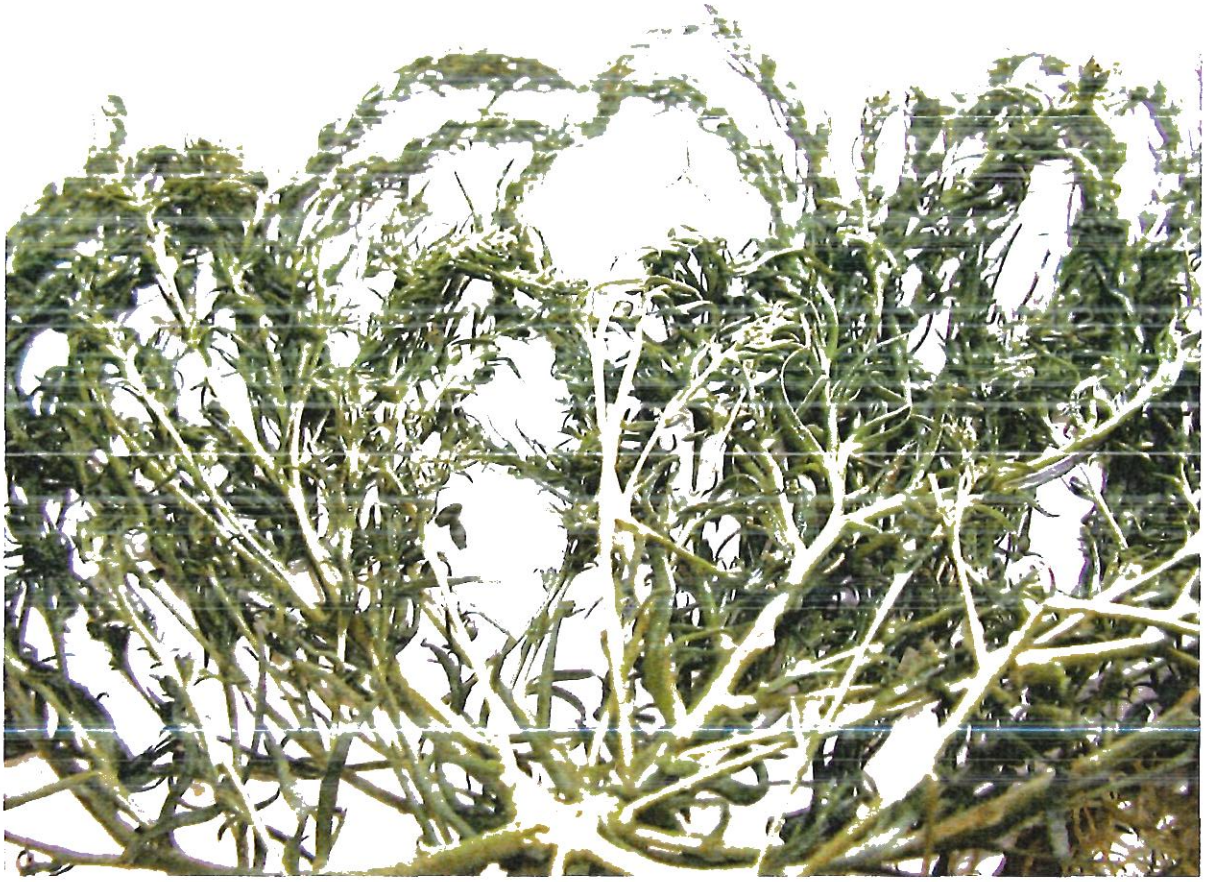
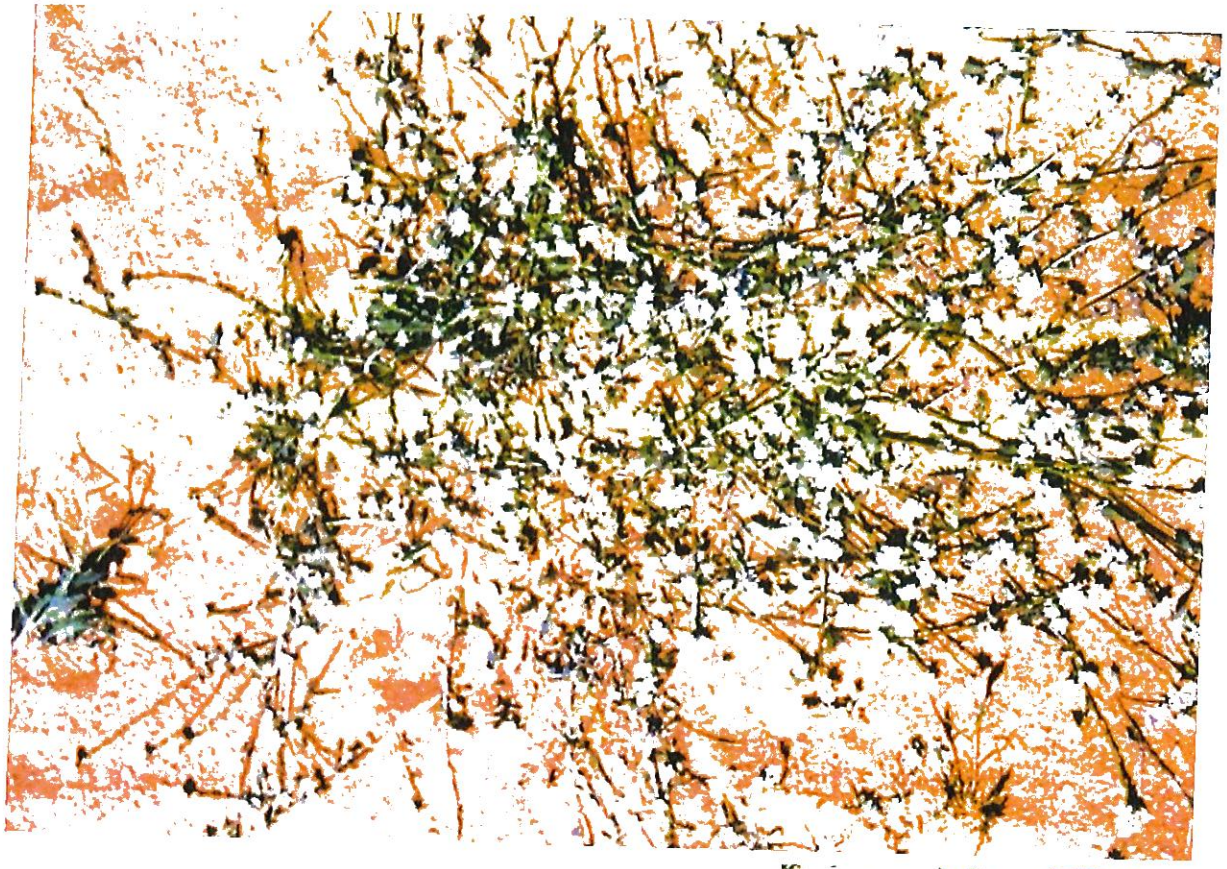
- **Arabic name**: Khardal Karawi
- **Scientific name**: *Texiera glastifolia* (DC.) Jaub.
- **Common name**: Globe Mustard
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant.
- **Chemical constituents**: Unknown.
- **Pharmacological action**: The plant shows antioxidant activity.
- **Other uses**: A wild flower and common weed.
- **Caution**: No reports.

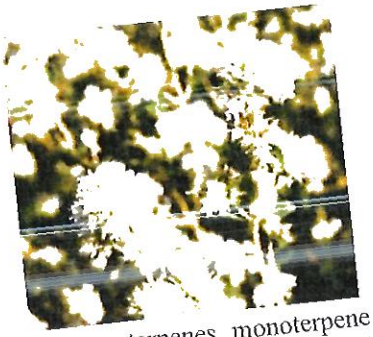


- **Arabic name**: Hab Qreesh
- **Scientific name**: *Thesium humile* Vahl.
- **Common name**: Dwarf Thesium
- **Family name**: Santalaceae
- **Growth habit**: Hemiparsitic herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant, and seeds.
- **Chemical constituents**: Seed oils, alkaloids including 1-hydroxymethyl pyrrolizidine, fatty acid esters, phenols, alkanes and alkenes.
- **Pharmacological action**: The plant has antimicrobial, antifungal, antioxidant, anti-cancer, antiphlogistic and hypo-cholesterolemic properties.
- **Other uses**: It is a herbaceous parasite.
- **Caution**: The plant is considered toxic to small ruminants.



Plant at the fruiting stage

- **Arabic name**: Shamrara
- **Scientific name**: *Thlaspi perfuliatum* L.
- **Common name**: Pennycress, Field Pennycress
- **Family name**: *Cruciferae* / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Seeds
- **Chemical constituents**: Oil in the seeds.
- **Pharmacological action**: *It is a galactagogue, laxative, and stomachic.*
- **Other uses**: The seed contains 20-30% of semi-drying oil, which is used for lighting. Young leaves are used raw or cooked. It provides a bitter taste and aroma. It can be added to salads, cooked in soups or used as a potherb, and tastes somewhat like mustard but with a hint of onion. The seed is ground into a powder and used as a mustard substitute that can be sprouted and added to salads. The above-ground parts are used for meals, salads and pies. *Thlaspi* has been proven to be a hyperaccumulator of heavy metals such as zinc and cadmium and therefore may be used in phytoremediation initiatives.
- ***Caution***: *No reports.*



The flowering heads

- **Arabic name**: Za'tar Bari
- **Scientific name**: *Thymus bovei* Benth.
- **Common name**: Wild Thyme, Creeping Thyme
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Branches, leaves, and the whole herb except the woody parts.
- **Chemical constituents**: Volatile oil, Essential oil rich in geraniol, oxygenated monoterpenes, monoterpene hydrocarbons, sesquiterpene hydrocarbons, oxygenated sesquiterpenes, phenolics, flavonoids, and proanthocyanidins, cymol, thymol, and tannin.
- **Pharmacological action**: The plant is used for abscesses, skin ulcerations and furuncles. It is carminative, and protects the stomach and intestinal membranes.
- **Other uses**: It is a kitchen herb. Fresh, dried leaves and shoots are used as salad seasoning and dough stuffing. Dry as ingredient in thyme mix. Leaves and shoots are eaten fresh, tea drink, and in pastries..
- **Caution**: Medicinal doses of oil must be avoided by pregnant women in any form as they are a uterus stimulant. Thyme oil may inflame mucus membranes and thus should always be diluted before use.

- **Arabic name**: Drailima
- **Scientific name**: *Tordylium aegyptiacum* (L.) Lam.
- **Common name**: Egyptian Hartwort
- **Family name**: Umbelliferae / Apiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Vegetative parts, flowers, fruits, and roots.
- **Chemical constituents**: Volatile oil made from hexadecanoic acid, β-caryophyllene, octyl octanoate and caryophyllene oxide.
- **Pharmacological action**: The plant is diuretic, beneficial for the kidneys and bladder, and induces abortion by causing convulsions of the uterus, thus facilitating delivery. The seed extract is digestive, and effective against jaundice, asthma and coughs. A seed infusion is antifungal, anthelmintic and expectorant. It is used against itching and scabies. The root juice is a cure for dyspepsia and high stomach acidity.
- **Other uses**: Immature nutritive soft fruits are eaten raw.
- **Caution**: No reports.

Fruiting stage

- **Arabic name**: Baqdoonis Bari'i
- **Scientific name**: *Torilis nodosa* (L.) Gaertn
- **Common name**: Knotted Hedge Parsley, Hedge Parsley, Wild Parsley
- **Family name**: Umbelliferae / Apiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Seeds and roots.
- **Chemical constituents**: *O*-glycosides of luteolin, apigenin, chrysoeriol, luteolin-7-*O*-glucoside and luteolin-7-*O*-rutinoside are common in all species. The plant also contains flavonoids.
- **Pharmacological action**: The seeds of *Torilis japonica* are anthelmintic, antifungal, antiviral, expectorant and tonic. They are used in Korea in the treatment of amnesia, pruritus, acidosis and scabies. The root's juice is used in the treatment of indigestion.
- **Other uses**: A common weed.
- **Caution**: No reports.

- **Arabic name**: Zamran, Damran
- **Scientific name**: *Traganum nudatum* Delile
- **Common name**: Traganum
- **Family name**: Chenopodiaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Roots, stems and leaves.
- **Chemical constituents**: There are sufficient levels of potassium, calcium, zinc, and cobalt to meet the requirements of ruminants. However, it seems that this halophyte shrub has substantial amounts of sodium, thus requiring an elevated intake of water by livestock.
- **Pharmacological action**: The plant is antibacterial, anti-diarrhoea and anti-rheumatism. It is used for healing wounds and as an antioxidant.
- **Other uses**: It is consumed by sheep.
- **Caution**: No reports.

- **Arabic name**: Thubah, Baql, Methna, Lihyat Al-Tais
- **Scientific name**: *Tragopogon buphthalmoides* (DC.) Boiss.
- **Common name**: Bull's Eye Goat's Beard
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Aerial parts
- **Chemical constituents**: Phenols.
- **Pharmacological action**: The aerial parts' infusion is used for gastrointestinal disorders, vermifuge and cardiac diseases. It is an antioxidant plant that is widely used as a food additive and in wound treatments.
- **Other uses**: Small leaves as well as the stem and the root are eaten raw or after being boiled. The leaves are used in salads as an appetizer.
- **Caution**: The plant may have some toxicity based on studies on mice that showed changes in creatinine, glucose and triglycerides, in addition to abnormal appearances on the lungs and liver.

- **Arabic name**: Thubah, Thanab Al-Faras, Lehyat Al-Tees
- **Scientific name**: *Tragopogon collinus* DC.
- **Common name**: Goat's Beard
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, flowers, aerial parts, roots, and latex.
- **Chemical constituents**: Flavonoids, apigenin, luteolin, quercetin, vitexin, protein, and fibres.
- **Pharmacological action**: It is used for worms and intestinal colic. Young roots are used for the stomach, are convalescents, and give strength to digestion. Young leaves are eaten raw for anti-scurvy effects. The extracted white juice, once coagulated, is chewed to keep the mouth moist. The plant is used for wounds, and the aerial parts protected against stomach ulcers resulting from ethanol-induced gastric ulcers in mice.
- **Other uses**: The whole young plant is consumed raw. Young roots can be scraped, cut and used in salads. It is a wild flower.
- **Caution**: No reports.

- **Arabic name**: Lehiet Eteas, Dabah Al-Khyool
- **Scientific name**: *Tragopogon hybridus* L. (*Geropogon hybridus* (L.) Sch.Bip)
- **Common name**: Old Man's Beard, Goat's Beard
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant.
- **Chemical constituents**: Vitamins A and C, and minerals including phosphorus, iron, sodium, potassium, manganese, zinc and copper.
- **Pharmacological action**: It is an antioxidant and an edible plant.
- **Other uses**: It is a wild flower. The whole plant is mentioned as being edible fresh before flowering.
- **Caution**: No reports.

Tragopogon sp.

Tragopogon coelesyriacus

Tragopogon sp.

Tragopogon buphthalmoides

Tragopogon spp.

- **Arabic name**: Dirs Al-Ajooz, Hassak, Qutob, Doraisah
- **Scientific name**: *Tribulus terrestris* L.
- **Common name**: Puncture Vine, Burra, Gookerou, Caltrops, Puncture Vine Cross, Chaparral Bullhead, Cat's Head, Devil's Eyelashes, Devil's Thorn, Devil's Weed, Goathead, Tackweed.
- **Family name**: Zygophyllaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves, fruit, and root.
- **Chemical constituents**: Hepatic toxin, methyl protodioscin (a steroidal saponin), spirosteroidal saponin, and terrestroneoside, and in the fruits are flavonoids, polyphenol carboxylic acids, tannins, reductive compounds, polysaccharides, nitrogen-containing compounds (nonalkaloids, alkaloids), saponins, and sterols. The furostanol saponins methylprotodioscin, methylprotribestin, prototribestin, and tribol are present, together with the known spirostanol saponins 2 and 3 and sitosterol glucoside tribulusterine, □-sitosterol, daucosterol, emodin, fixed fatty oil, essential oil, selenium, resins, nitrate physcion, terrestriamide, N-trans-feruloyltyramine and N-trans-caffeoyltyramine. Also present are steroid saponins, furostanols, spirostanols, sapogenins, and other biologically active substances and harmane alkaloids.
- **Pharmacological action**: The plant is diuretic, antiseptic, astringent, tonic, demulcent, antihypertensive, cardiotonic and cicatrising. It is used for burns, gout, diarrhoea, kidney stones, scars, stomatitis, wounds, smallpox and gonorrhoea. The plant ash is used for treating rheumatism and is used as a paste for bladder stones. It has cytotoxic activities. In an oral liquid herbal composition, it is useful for asthmatic, diabetic and calorie-conscious patients. Its gel or dental cap is used for treating sensitive teeth and in compositions for sexual dysfunction, increasing testosterone levels, and improving muscle strength and mass. It acts as an agent for strengthening the immune system, increasing the number of T-cells and antibodies, testosterone quantities in human organisms, and has a strong antiphlogistic effect. Plant extracts are used as an aphrodisiac, enhance sexuality, are antibacterial and antiviral, and are used in an anti-herpes cream; the product was very successful in a suppository form for the treatment of vulvo-vaginal, vulvo-haemorrhoidal and colonic conditions. It is active in cases of debility and weakness in ageing persons.
  The plant is used as a liver stimulant and for urinary system diseases, nose and digestion system bleeding, arthritis and fungal ailments. It lowers high lipid levels and acts as an antioxidant.

In folk medicine, the plant is widely used to treat colic and angina pains and to reduce plasma cholesterol levels, and is marketed as a natural testosterone booster. It is used for coughs and urinary disorders. A decoction or powder of the whole plant is useful as a general health tonic and internally for renal calculi.
The plant is also used for cystitis, nephritis, spermatorrhoea, arthritis, dysuria and gravel. It restores and improves libido in men, cures infertility as well as improves and prolongs the duration of erections, and increases the number of sperm and their mobility.

- **Other uses**: It is fed to cattle for more lactation. The plant has antifungal activity and is used as an anti-staling agent for food and fruit. It is a weed species.
- **Caution**: The plant is toxic and causes head swellings and insomnia, and therefore should be used in limited amounts and under medical supervision. It is toxic to animals if taken in large quantities, and sheep may develop swelling of the head due to the photosensitization. Symptoms of poisoning include jaundice, photosensitivity resulting in inflammations on pale skin, hepatitis, and in many cases baldness and skin sores. Other symptoms include abdominal ailments followed by the cessation of rumination, anorexia, weakness, diarrhoea, perspiration, shrivelling and trembling in horses and strong heart contractions in humans. Feeding on the seeds causes mouth and throat burns, inflammation, bleeding in the mucus membrane of the digestive tract, and flatulence and edema in the kidney and liver. Usually the digestion of 8 seeds causes death in adults, 2-4 seeds kills infants, and just 2 seeds causes abortion. However, other reports indicated no adverse side effects of *Tribulus*. The only effect experienced is an upset stomach, which can be helped if it is taken with food. In large quantities it is a sheep poison.

Flowering stage

- **Arabic name**: Musais Mukhmali, Shook Al-Dabi'i
- **Scientific name**: *Trichodesma boissieri* Post
- **Common name**: Boissier, Trichodesma
- **Family name**: Boraginaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant, leaves, and roots.
- **Chemical constituents**: Unknown.
- **Pharmacological action**: The plant is used for arthritis, anorexia, dysentery, skin diseases, and wound healing. The root paste is a cure for joint swellings, diuretic, pulmonary edema, acute heart attack, and renal failure.
- **Other uses**: The roots are used in food colouring, oil and wool dye. It is a wild flower.
- **Caution**: No reports.

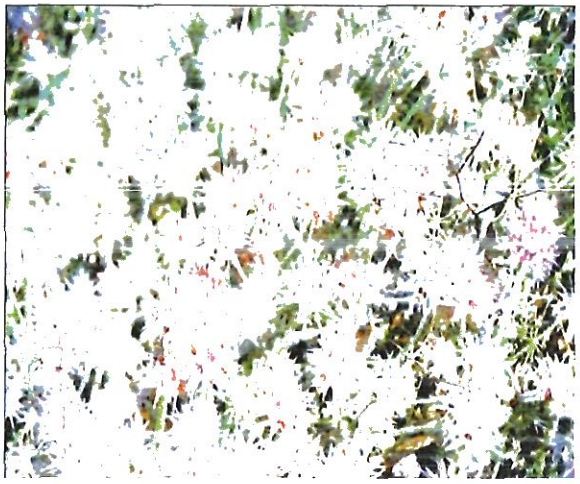
- **Arabic name**: Barseem Murooj, Barseem Ahmar, Nafal Ahmar, Nafal Shae'i
- **Scientific name**: *Trifolium pratense* L.
- **Common name**: Red Clover
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, flowers, and the flowering plant.
- **Chemical constituents**: High amounts of isoflavone compounds such as genistein in the flowers. In addition to trifolin glycoside and isotrifolin, the plant contains fixed oil, fatty acids, essential oil, resin, carotene, vitamins of the B group and vitamins A, E, and C. Phenolic acids, salicylic acid, silicates, coumarins, starch, and some important fatty acids are also present, together with estrogens, cyanogenic and isoflavone glycosides, goitrogen, nitrate, saponin compounds, tocopherol, malonates including tocopherol and prunetin, flavonoids, alkaloids, isoflavone glucosides, irilone, biochanin A, formononetin, pratensein, genistein, calycosin, daidzein and slaframine.
- **Pharmacological action**: It is a dermatological agent, a mild antispasmodic, emollient, analgesic, astringent, vulnerary, antiphlogistic, anti-tussive and expectorant. It is used for chronic skin disease, whooping cough, hoarseness, eczema, and psoriasis, and the phytoestrogens prevent diseases. The plant is also used for asthma, abdominal colic, coughs, diarrhoea, rheumatism, gout, bronchitis, burns, cancers, ulcers, sedation, and syphilis. It treats skin conditions in combination with other herbs and in mixtures to treat chest colds and stomach disorders, and as compresses to treat rashes and sores. The flavones are estrogenic, and are effective against breast, colon, prostate, and endometrial cancers, bone atrophy, and cardiovascular and menopausal problems. Supplements containing isoflavones decrease the levels of triglycerides in symptomatic menopausal women. It improves therapeutic potential in the prophylaxis of skin damage, the elasticity and dryness of skin, enhances collagen formation, has powerful potential to reduce inflammatory edema reaction, suppresses contact hypersensitivity, may prevent photoaging, inhibits skin carcinogenesis and coetaneous ageing induced by UV light in mice, inhibits photodamage in humans, and is of potential use as a sun-protective cosmetic ingredient. It stimulates osteoblastic cells and estrogenic activities. Red clover is used in cosmetics to reduce the appearance of skin ageing. The plant contains large amounts of tocopherol, a potent

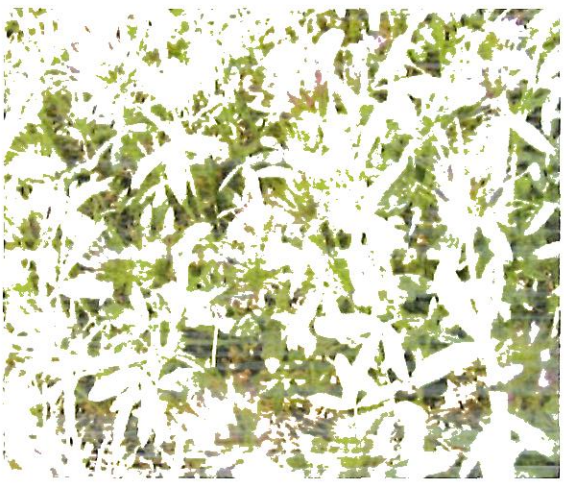
antioxidant form of vitamin E that prevents tumour formation in animals. It may also relieve menopausal symptoms as elements of the plant behave like estrogen.

In folk medicine, red clover is a remedy for breast cancer, and a concentrated decoction is applied to the site of the tumour in order to encourage it to grow outwards and clear the body. Flowering heads are alterative, anti-scrofulous, aperients, detergent, diuretic, sedative and tonic. Internally, it is used for cancers of the ovaries and the lymphatic system, and against chronic and degenerative diseases. The toxic indolizidine alkaloid slaframine is often found in diseased clover. This alkaloid is being studied for its anti-diabetic and anti-AIDS activity.

- **Other uses**: A forage species and wild flower.
- **Caution**: It should never be given to pregnant women since it is dangerous for embryos and suckling infants. It is considered as an anti-conceptive in sheep and cattle due to its activity on estrogen receptors. The plant is contrain+dicated for people with a history of breast cancer, ovarian cancer, uterine cancer, uterine fibroids, endometriosis, and other estrogen-sensitive conditions, but others have suggested the high isoflavone content counteracts this, and even provides benefits for these conditions.

Because of its content of coumarin derivatives, it should be used with caution by individuals with coagulation disorders or who are currently undergoing anticoagulation therapy. Caution should be used when taking it with other drugs. Trifoliosis is attributed to herb poisoning. Light-skinned animals are particularly affected if they are allowed to graze on the wet plant. Animals poisoned following the ingestion of dew-dampened plants usually refuse to eat. They may drool, and their tongues and lips may become swollen. In cattle and horses with photosensitization, the white skin becomes swollen, and it may slough, leaving unsightly scars. In sheep, the eyelids, ears, nose, and mouth swell, resulting in a big head; these parts may at first ooze serum, and later scabs may form. Intense itching may develop. The LD50 for mice is 4237 mg/kg. The plant contains phytoestrogens and thus it has estrogenic activity. It has low toxicity but the negative effects on sperm parameters due to the estrogen-like chemicals it contains may cause abnormal foetal development in small-born animals. Men with prostate cancer should avoid the plant, unless otherwise recommended by a specialist. Red clover extracts may conceivably interfere with hormone treatments and anticoagulant drugs.





Other *Trifolium* species

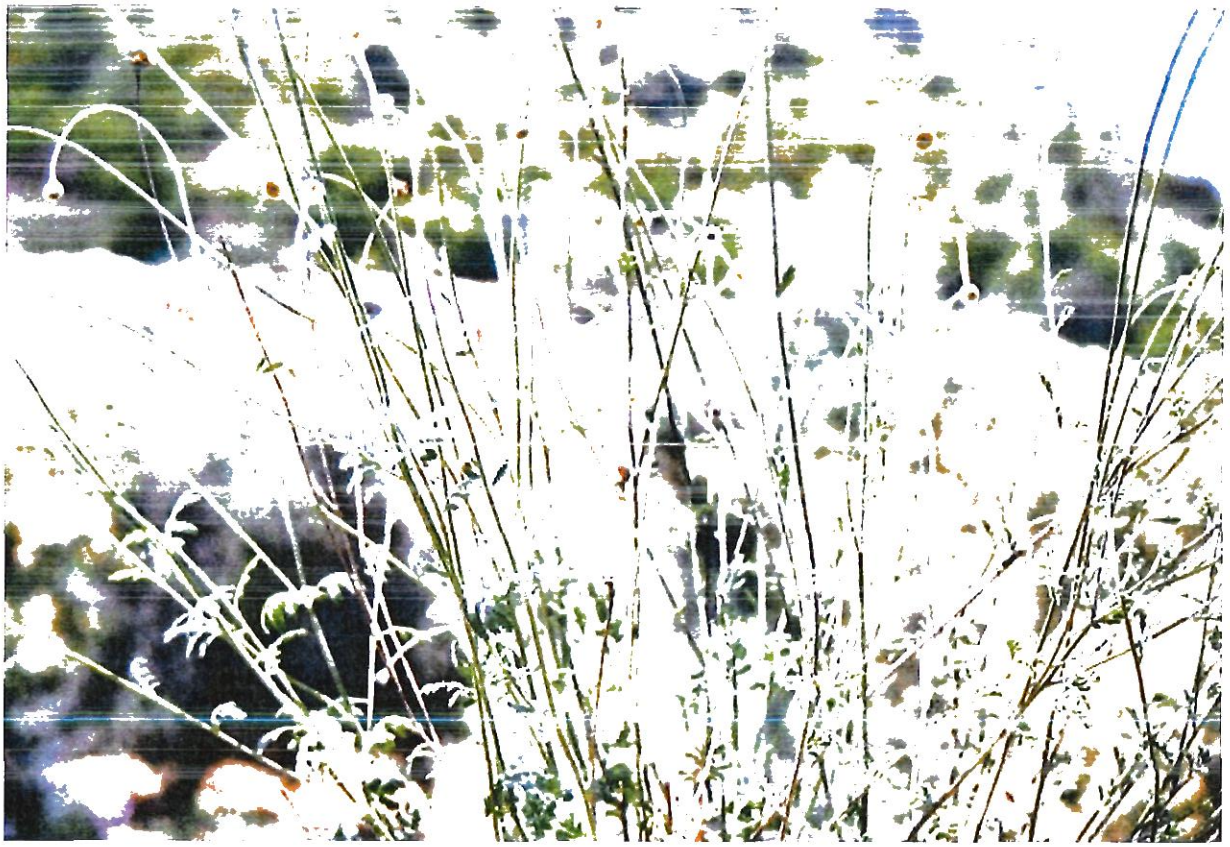
A flowering plant

- **Arabic name**: Helba Arabia
- **Scientific name**: *Trigonella arabica* Delile
- **Common name**: Fenugreek
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves and seeds.
- **Chemical constituents**: Trigonelline, coumarin, and the oil in seeds. Trigonelline (1-methylpyridinium-3-carboxylate), an alkaloid present in the seeds, has been reported to exhibit phytoestrogenic activity. An anti-hyperglycaemic compound is also present.
- **Pharmacological action**: The plant is used in the treatment of psoriasis as a paste prepared from pounded seeds mixed with olive oil, which is applied to the affected area. *Trigonella arabica* has a hypoglycaemic effect when used systemically. It is the most widely used herbal galactagogue for enhancing human milk supply in many countries. The seeds are traditionally used as a condiment. The plant is recommended for breastfeeding women with an insufficient breast milk supply.
- **Other uses**: A wild flower.
- **Caution**: No reports.

- **Arabic name**: Helbah Barria, Handaqouq, Hwaijah
- **Scientific name**: *Trigonella stellata* Forskal
- **Common name**: Star Fenugreek, Star Trigonel
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Mature seeds.
- **Chemical constituents**: Seeds contain alkaloids, of which the most important is trigonelline, as well choline, gum materials (28%), protein (22%) and fixed oils (6%).
- **Pharmacological action**: It is a stomach tonic since it contains bitter material and a blood purifier if drunk in the morning before ingesting food. Its decoction is a galactagogue in nursing women; it is also useful for chest catarrh, coughs, asthma, breathing difficulty, and lung inflammations. Its decoction induces obesity; it is also used as a gargle for tonsillitis and diphtheria. The plant helps diabetic people and heals wounds and injuries. It has anti-constipation and anti-haemorrhoids activities. Externally, it is used as a poultice for tumours, abscesses, some skin diseases, and muscle and rheumatism ailments. A plant ointment is used in foot massages and before bed for coughs, colds and cold feet.
- **Other uses**: Fresh young shoots are a seasoning and spice.
- **Caution**: The plant's toxicity causes bleeding.

Trigonella verticillata

- **Arabic name**: Babonij Kathib
- **Scientific name**: *Tripleurospermum auriculatum* Boiss. Rech.f.
- **Common name**: False Chamomile
- **Family nameb** Composiatae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Flowers
- **Chemical constituents**: Flowers eesential oil composed main compounds including α-pinene (23.27%), linalyl isobtyrate (17.92%), 4-carene (14.17%), boreniol (11.90%), pinocarvone (9.07%), p-cineol (7.92%), α-terpenen-4-ol (6.77%) and piperiton (5.71%).
- **Pharmacological action**: In general plants of this genera are not rich in aromatic terpenoid compounds, but reveal several beneficial medicinal properties, including anti-inflammatory, antifungal, antibacterial, general antimicrobial and antioxidant
- **Other uses**: A wild flower
- **Caution**: No reports.

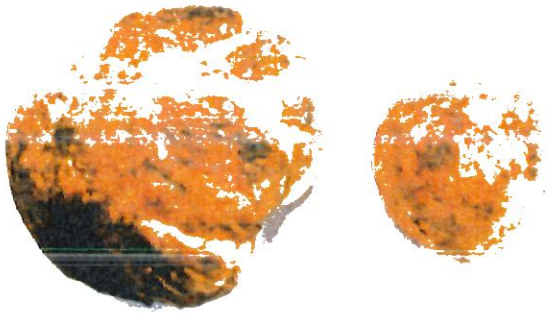


Plant population

- **Arabic name**: Kamayah, Nabat Al-Raeid
- **Scientific name**: *Tuber melanosporum* Vittad
- **Common name**: Truffles, Perigord Truffle, Black Truffles
- **Family name**: Tuberaceae
- **Growth habit**: Fungus
- **Life cycle**: Annual
- **Part/s used**: Tuber
- **Chemical constituents**: Sugars and starch (13%), fat (1%), mineral elements including phosphorus, sodium, calcium and potassium, vitamins C, B_1 and B_2 and some acids that help the digestive system. The weight of the fungus is primarily water (75%) and a high proportion of proteins (16-19%), in which the major amino acids are aspartic and glutamic acids, lysine and tyrosine in addition to unsaturated fats and other secondary constituents. Volatile organic compounds, sulfur and polyhydroxysteroids together with ergosterol and its related 3□-O-glucoside, aldehydes (2-and 3-methylbutanal) and alcohols (2- and 3-methylbutanol) are also present. Ergosterol (ergosta-5,7,22-trienol) and brassicasterol (ergosta-5,22-dienol) are major components (90%), in addition to dimethyl sulphide, neutral sugars (galactose, mannose, glucose), protein, melanin and very low proportions of glucosamine (1%) and lipids (<1%).
  The aromatic compounds of fruiting bodies include 2-methyl-1-butanol, isoamyl alcohol, 2-methylbutyraldehyde and 3-methylbutyraldehyde, as well as traces of sulfur compounds. One of these, dimethyl sulphide, is what attracts truffle dogs, truffle hogs and truffle flies to the fruiting bodies. Several species of yeast, which produce part of the aromatic compounds, have been isolated from *Tuber melanosporum* and a total of 59 volatile organic compounds were identified from *Tuber melanosporum*

fermentation, some from its fermented mycelia and others from the fermented broth. Alcohol-derived compounds were predominant in both the fermented mycelia and the broth, and long-chain fatty acids and isoprenoids were found in the mycelia. The intense wine bouquet properties of the broth arose from several specific flavour substances, including sulfur compounds, pyrazines, furans and jasmones.

- **Pharmacological action**: Truffles are used for nail brittleness, lips' seams, and eyesight disorders. Dried powdered truffles are an aphrodisiac. The fungus water prevents eye fibrosis and trachoma.
  In folk medicine, it is widely used in the treatment of trachoma at all stages of its development. As an eye salve, it can be useful for glaucoma and ophthalmia, as its water can clean the eye perfectly. It is claimed that it enhances sexuality.
- **Other uses**: The truffle is a good food with a high percentage of protein content. It can be used to prepare a delicious soup for table food seasoning. For those who feed on truffles, it should first be inserted in moist clay and then boiled in saltwater and thyme, then eaten with oil and hot spices.
- **Caution**: It should be well cooked and never eaten raw since it causes dyspepsia. It is not advised for those who suffer from digestive system diseases and people with allergies. Some varieties of truffles, one of which is reddish in colour, cause death through suffocation. Cool, moist truffle is bad for the stomach as it slows digestion, and when frequently taken it causes colon problems, strokes, paralysis, stomach ailments and urination difficulties. Moist truffle is less dangerous than dry truffle.
  An excessive intake induces phlegm and leucorrhea.



Terfezia boudieri

- **Arabic name**: Tulip Barri, Tulip Ahmar, Qarn Al-Ghazal
- **Scientific name**: *Tulipa stylosa* Stapf
- **Common name**: Sun's Eye Tulip
- **Family name**: Liliaceae / Alliaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, flowers, and corms.
- **Chemical constituents**: Alkaloids, glycoproteins, glucose-esters (tuliposides A and B), hydroxyl tartaric acid, amino acids, tulipalin A and B and glycosides.
- **Pharmacological action**: The glycosides have medicinal uses. The plant is used for coughs, colds, sinusitis, hay fever and headaches. It is diuretic and antiseptic. It lowers the number of cancer cells and is excellent for sensitive dry skin. It is used in creams, hand lotions, aromatic oils and perfumes. The tuliposide inhibits *Bacillus subtilis*. The plant extract has antibacterial effects against *Staphylococcus aureus* and the leaves are used in poultices. Petals' extract is used as a face rubefacient, and it helps remove blotches and skin deformations. Tulip creams help with scratches, dermatitis, skin boils, and insect stings, and petals help with curing skin burns.
- **Other uses**: The corms are eaten raw or roasted. The plant is a wild flower.
- **Caution**: The plants can be dangerous or fatal if taken in large doses. The consumption of tulip bulbs by livestock or children results in illness and occasionally fatal results. Symptoms included low blood pressure, cardiac arrest, dizziness, nausea, abdominal pain, and occasionally spasms and death. Glycosides are toxins, and become harmful when the sugar molecule is stripped off, as in the process of digestion. Skin irritations

arise in persons handling large volumes of tulip bulbs, such as nursery workers. The most potent concentration of toxic compounds is usually found in swollen underground stems, known variously as bulbs, rhizomes, and corms.

Tulipa agenensis DC.

- **Arabic name**: Halfa
- **Scientific name**: *Typha anguistifolia* L.
- **Common name**: Cattail
- **Family name**: Typhaceae
- ***Growth habit***: Herb
- **Life cycle**: Perennial
- **Part/s used**: Latex, leaves, stem, and pollen grains
- ***Chemical constituents***: Cerebrosides,1-*O*-(β-D-glucopyranosyloxy)-(2*S*,3*S*,4*R*,8*Z*)-2-[(2′*R*)-2′-hydroxytricosanoylamino]-8-nonadecene-3,4-diol and 1-O-(β-D-glucopyranosyloxy)-(2S,3R,4E,8Z)-2-[(2′R)-2′-hydroxynonadecanoylamino]-4,13-nonadecene-3-diol, and flavonoids in the pollen. Stearic and propanetriol esters, quercetin and naringenin are present. An extract of rhizomes contains bibenzyls, typharin and typhaphthalide, together with ß-sitosterol. An acetone extract yielded several flavan-3-ols in their free phenolic form, viz. afzelechin, epiafzelechin, (+)catechin, and (-)-epicatechin.
- **Pharmacological action**: A soft down from the cobs is dried and used over burned and chafed portions of the body. Cut, sliced and chopped stems are spread on wounds, burns and sores. It is taken internally to quell diarrhoea, to kill and expel worms, and for gonorrhoea. Species of *Typha* are used as a refrigerant, sedative, tonic and vulnerary. The leaves are diuretic and may be mixed with oil and used as a poultice on sores. The pollen is astringent, diuretic, emmenagogue, haemostatic, supportive and vulnerary. The dried pollen is anticoagulant, used internally in the treatment of kidney stones, haemorrhages, painful menstruation, abnormal uterine bleeding, post-parturient pains, abscesses and cancer of the lymphatic system. Externally, it is used for the treatment of tapeworms. *Typha* is used for diabetes, fever and stomach pains. Cerebroside compounds exhibited an effect on the proliferation of cultured vascular smooth muscle cells (VSMCs) induced by fetal bovine serum (FBS). The pollen has been used for the treatment of dysmenorrhoea, strangury and metrorrhagia.
- **Other uses**: *Typha* spp. are ornamental plants with cylindrical spikes used in decoration. The leaves are a good source of paper pulp. The stems and leaves can be used in making paper woven into mats, chairs and hats. They are an excellent addition to the compost heap or used as a source of fuel. The pulp of the plant can be converted into rayon and stems are used to make rushlights. The female flowers make excellent tinder. A fibre is obtained from the blossom, stem, flowers and leaves for making paper. The hairs of the fruits are used for stuffing pillows. They have good insulating and buoyancy properties and have also been used as a wound dressing. The pollen is highly inflammable, and is used in making fireworks. It is an ornamental and a common aquatic industrial species.

❖ **Caution:** The plant should not be prescribed for pregnant women. It may cause hay fever. The ground-up stems and rhizomes of *T. latifolia* have in some instances proved poisonous to people, and an unidentified species was also reported as poisonous.

- **Arabic name**: Halfa
- **Scientific name**: *Typha latifolia* L.
- **Common name**: Cattail
- **Family name**: Typhaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Roots, rhizomes, pollens, leaves, stem, roots, and latex.
- **Chemical constituents**: Some fatty acids, steroidal and carotenoid-like compounds, polysaccharides and polymers.
- **Pharmacological action**: The jelly-like roots are used as poultices to treat burns and wounds. Cut, sliced and chopped stems can be spread upon wounds, burns and sores. They are taken internally to quell diarrhoea, to kill and expel worms, and for gonorrhoea. They are carminative, analgesic, a soothing agent and alleviate burns. The plant is used for hypercholesterolaemia and haematemesis. Sometimes the grains are mixed with honey and applied on wounds for internal bleeding and urinary problems. Species of *Typha* are used as a refrigerant, sedative, tonic and vulnerary. The leaves are diuretic and may be mixed with oil and used as a poultice on sores. The pollen is astringent, diuretic, emmenagogue, haemostatic, supportive and vulnerary. The dried pollen is anticoagulant and haemostatic. It is used internally in the treatment of kidney stones, painful menstruation, abnormal uterine bleeding, post-partum pains, abscesses and cancer of the lymphatic system. Externally, the plant is used in the treatment of tapeworms. It is used for diabetes, fever and stomach pain. The fruits' hairs have also been used as a wound dressing to absorb wound ichors. Fruit polysaccharides induce the differentiation and stimulation of the proliferation of human keratinocytes *in vitro*. In folk medicine, *Typha latifolia* fruits' extracts are traditionally used for wound healing and for the strong stimulatory activity of the polysaccharides on keratinocytes proliferation and early differentiation, which are major activities and necessary for potent wound-healing agents.
- **Other uses**: *Typha* spp. are ornamental plants with cylindrical spikes used for decoration. The leaves are a good source of paper pulp. The stems and leaves can be used in making paper woven into mats, chairs, hats, etc. They are an excellent addition to compost or a source of fuel. The pulp of the plant can be converted into rayon and stems are used to make rushlights. The female flowers make excellent tinder. A fibre is obtained from the blossom, stem, flowers and leaves for making paper. The hairs of the fruits are used for stuffing pillows. They have good insulating and buoyancy properties. The pollen is highly flammable, and is used in making fireworks. The inflorescence is cooked as a vegetable. Ropes have been formed from its leaves. Dried leaves are also used as fuel, in roof thatching and for making baskets and mats. It is an ornamental and an

industrial aquatic species. Roasted rhizomes can be used as a coffee substitute. The plant possesses anti-algal activity.

❖ **Caution**: The plant should not be prescribed for pregnant women. It is potentially toxic to grazing livestock. *Typha* pollen may be toxic to bees and it is avoided by these insects. The toxicity may be due to the plant's high starch content. The pollen contains lipid-soluble phagostimulants.

- **Arabic name**: Khubz Alqaq
- **Scientific name**: *Umbilicus rupestris* (Salisb.) Dandy
- **Common name**: Navelwort, Penny-Pies, Wall Pennywort
- **Family name**: Crassulaceae
- **Growth habit**: Fleshy Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves and stem.
- **Chemical constituents**: Phenolics.
- **Pharmacological action**: The plant is used in homeopathic medicine. Its juice, or when drunk in distilled water, is very effectual for all inflammations and abnormal heats, chills, fainting, a hot stomach, a hot liver, hot bowels, and nephritis resulting from kidney stones. The herb, juice, or distilled water thereof, outwardly applied, heals pimples, removes splinters, thorns, warts and septic spots, St. Anthony's fire, and other outward heats. The juice or water helps to heal sore kidneys, torn or fretted by kidney stones; it also provokes urine, aids with dropsy, and helps to break stones. When used as a bath, or when made into an ointment, it cools painful piles or haemorrhoidal veins. It eases the pains of gout and sciatica, and helps the kernels or knots in the neck or throat called the king's evil; it heals kibes and chilblains if they are bathed with the juice, or are anointed with ointment made therefrom, and some of the skin of the leaf is then placed upon them; it is also used on new wounds to stay the blood, and to heal them quickly. The juice and extract of the plant have an old reputation for the treatment of epilepsy. It is a vulnerary, and the plant is sometimes employed to ease the pain of scratches by applying the leaf to the skin after removing the lower cuticle. Powdered leaves are also used for inflamed skin and carbuncles. The leaves are mildly analgesic, and are made into a poultice and used in the treatment of piles, slight burns and scalds. A decoction of the leaves is considered to be cooling and diuretic, and the juice taken inwardly is said to be excellent for treating inflammations of the liver and spleen.
- **Other uses**: It is an edible plant and a wild flower. The plant is traditionally used to treat animal skin diseases and or gastrointestinal disorders.
- **Caution**: No reports.

- **Arabic name**: Onsul, Bosalan, Onsulan, Basal Firion, Basal Onsul, Suom Alfar, Basal Al-Far, Ashqeel Bahri
- **Scientific name**: *Urginea maritima* (L.) Bank.
- **Common name**: Squill White, Sea Onion, Sea Squill, Squill
- **Family name**: Liliaceae / Alliaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Bulb and leaves.
- **Chemical constituents**: Cardiac glycosides, scillirosides, especially proscillaridine A, seillarubroside, minerals, flavonoids, sugars, crystallized glycusides, mucilage, carbohydrates, calcium oxylates, volatile oils and urginen. Scillarine A, scillarenine glucosides or scillarigenin (glucoscillaren A and scillaren A) or 11-beta hydroxylated derivative (scilliphaeosidin), and scillicyanoside.
- **Pharmacological action**: The plant is calefacient, and is used for abscesses, colds, jaundice, skin diseases and skincare. Cardiac glycosides stimulate the heart and are diuretic in moderate doses. The red squill plant has also been used as an abortifacient, for haemorrhoids and constipation, and as an emetic, anti-rheumatic, analgesic, sedative, cardiotonic, cathartic, expectorant, deobstruent, and emmenagogue. The bulb is used for alopecia. In the past, it has also been used for pneumonia, cardiac diseases and debility, blood pressure and deafness. White squill formulations are cardiotonic and regulate the heart's pulse. The plant is used to cure pulmonary inflammations, coughs, and tumours, and is used as a roasted bandage for furuncles. Bulb juice is useful for scabies and itching after mixing its ash in rose fat. It is used for edema and whooping cough, and cures pleurisy.
- **Other uses**: A poisonous wild flower, the red squill plant acts as a fast-acting rodenticide and may also be an insecticide.
- **Caution**: This genus includes some species that may contain cardiac glycosides and aglycones such as glucoscillarine, scillarine and scillarenine. Large doses are fatal. Cardiac glycosides are emetic and poisonous in larger doses. The juice of the bulb causes blisters when it comes in contact with the skin. The most active compounds in the plant are scillirosides, especially proscillaridine A. The extract of squill is used as an ingredient in expectorants and cough medicines.
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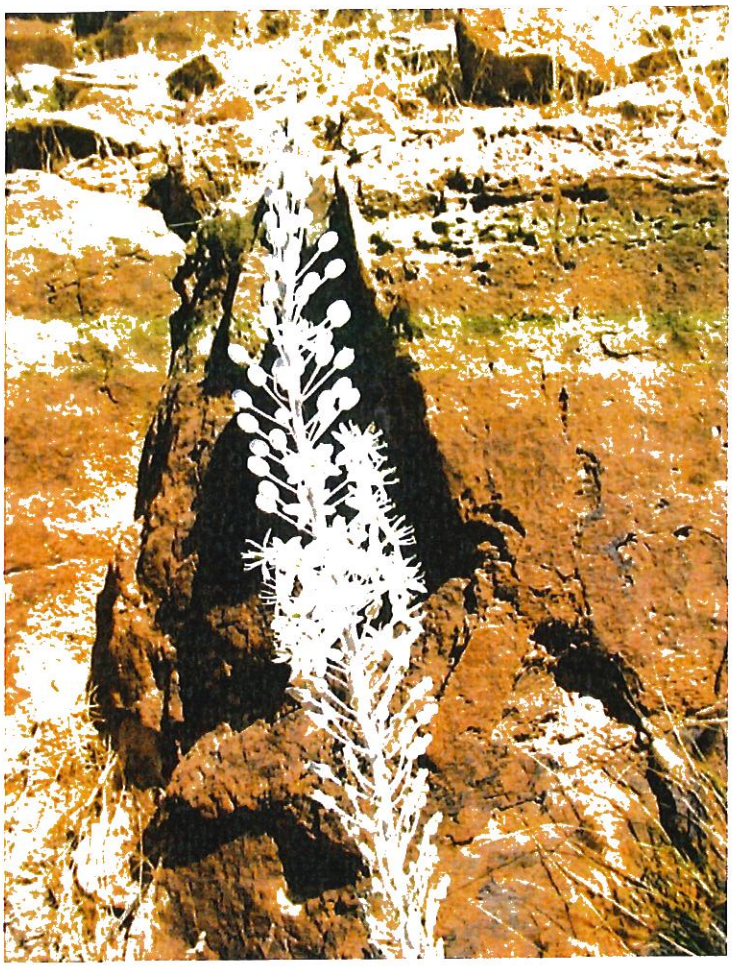


Flowering shoot

Plant population

- **Arabic name**: Qurrais, Harriq
- **Scientific name**: *Urtica pillulifera* L.
- **Common name**: Dwarf Stinging Nettle, Roman Nettle
- **Family name**: Urticaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Flowering stems, leaves, roots before flowering, and the whole plant.
- **Chemical constituents**: Acetylcholine, histamine, glycoquinine, secretin, tannic acid, gallic acid, carotene, formic acid, proteins, glycoside, fucoxanthin, NH_3, iron, chlorophyll, vitamin A, salts of calcium and potassium, tannin, 5-hydroxytryptamine (5-HT), triterpenic acids, coumarins, simple phenols, lignans, ceramides, hydroxy fatty acids, and flavonol glycosides in the flowers.
- **Pharmacological action**: Dwarf nettle cures cancer, anaemia, stomach aches, intestine pains and inflammations, and liver and circulatory system diseases. Styptic, a hair tonic and diuretic, it can also be used for weariness and exhaustion, pains in the legs, muscle spasms, inflammatory disorders and rheumatoid arthritis.

  The whole plant is antiasthmatic, antidandruff, astringent, depurative, hypertensive, arteriosclerotic, galactagogue, haemostatic, hypoglycaemic and a stimulating tonic, stops nose and uterus bleeding, and is useful for ulcers. A plant infusion is used for internal bleeding, excessive menstruation, haemorrhoids, bedwetting, arthritis, colds, digestion disorders, phlegm, tuberculosis, paralysis due to brain vein explosion, rheumatism and skin complaints, especially eczema and varicose veins. Externally, it is used for gout, sciatica, neuralgia, hair problems, pig disease and for kidney and urinary system ailments. The juice is used as an antidote to leaf stings, and fresh leaves' infusion is used as a lotion for burns. It is a homeopathic remedy, a useful first-aid remedy, and used to treat bites, stings, burns, hives and breastfeeding problems.

  The tea made from the leaves has traditionally been used as a tonic and blood purifier. The root decoction treats alopecia and the plant decoction is good for diarrhoea.

- **Other uses**: Fresh young shoots are eaten raw as vegetables. The young, spring greens are tastier than spinach and rich in iron and vitamins A and C. Companion planting nettles with aromatic herbs is said to increase their oil content. It makes a greenish-yellow dye. The plant is partially edible, and rich in minerals.
- **Caution**: Large doses lead to blood circulation disorders. The bristly hairs of the plant act as a hypodermic, injecting an irritant substance under the skin when touched. Stinging cells cause skin allergies, an increase in salivation, weakness and breath disturbance, a reduction in heart pulses in animals, and then death.

Flowering stage

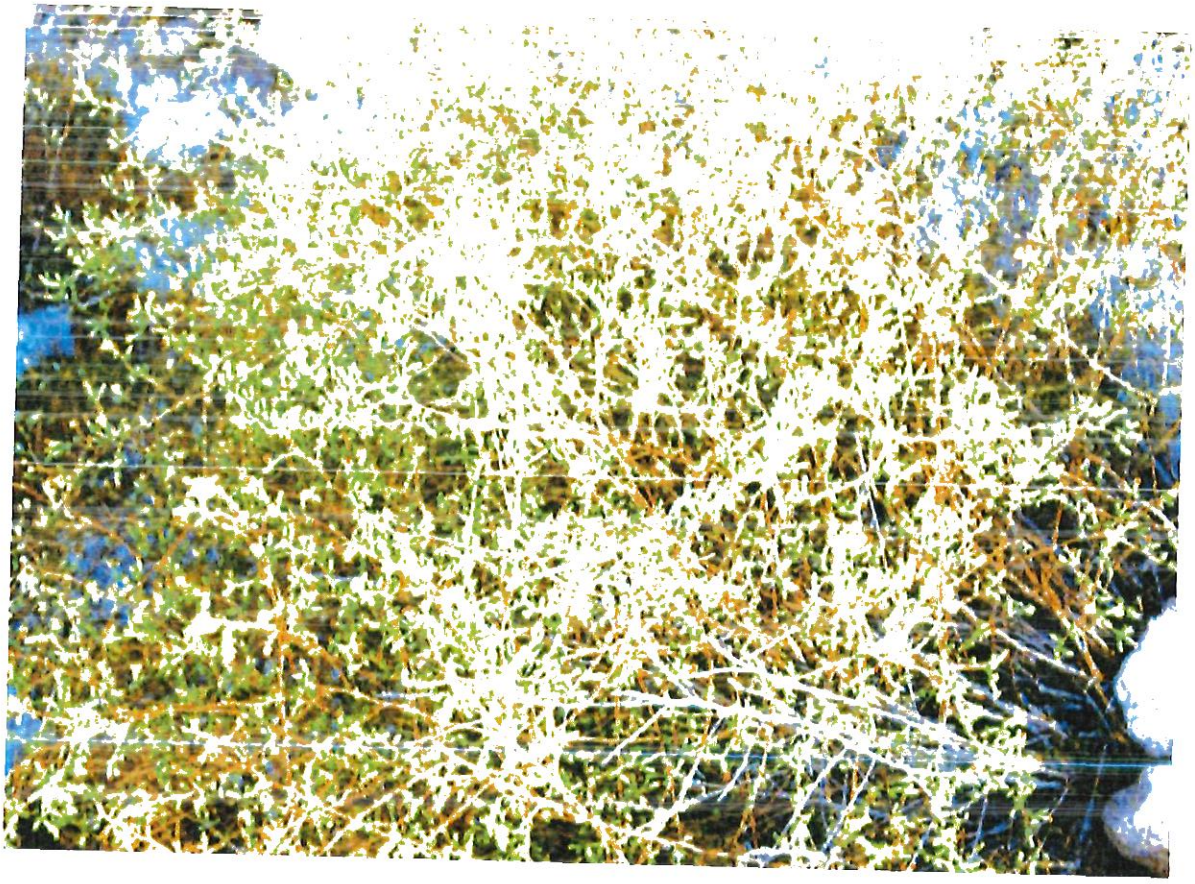
- **Arabic name**: Qurrais
- **Scientific name**: *Urtica urens* L.
- **Common name**: Small Nettle
- **Family name**: Urticaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Flowering stems, leaves with stinging hair cells, and roots.
- **Chemical constituents**: Linoleic acid, palmitic acid, alpha-tocopherol, lecithin, stearic acid, linolenic acid, beta-sitosterol, serotonin, beta-carotene, oleic-acid, coumarin, formic acid, phenolic compounds (scopoletin, caffeinic acid, and chlorogenic acid), flavonoids, glycoproteins, leukotrienes, xanthophyll, salts of mineral nutrients, essential oil, choline, secretin, enzymes, mucilage, acetylcholine, histamine, vitamins A, B_2, C and K, chlorophyll, fixed oil, heptamin, tannins, salicylic acid and 5-hydroxy-tribetamin.
- **Pharmacological action**: It is astringent, diuretic, haemostatic, anti-rheumatic and styptic. Nettle contained in a gel is used for relieving the effects of mosquito bites, in particular itching and erythema. It has galactagogic and blood-purifying properties. It is used to treat urinary, liver and respiratory disorders, gastritis, enteritis, and skin disorders. Nettle leaf is an excellent remedy for kidney trouble. When used in combination with sea wrack it brings splendid results in weight loss. Nettle tea is good for colds and fevers, an excellent remedy for dandruff, and brings back natural hair colour. It is usually formulated in shampoos.
  The plant is used for prostate disorders and urinary tract problems, since it helps urination. It purifies the blood, is cholagogic, stops diarrhoea, and enhances digestion and intestinal secretions. The oil is a hair tonic, and alleviates arthritis and muscle ailments. A plant decoction is deodorant and reduces excessive secretions of skin fat glands. It is nutritive and useful for anaemia because of its iron and vitamin C content that helps the body absorb iron in a good manner. It cures gout, eczema, psoriasis, and arthritis. An ointment made from the plant is used for haemorrhoids and to protect against arteriosclerosis. Nettles are used to stop lung, uterus and gum bleeding, expel phlegm, help wound healing and for ophthalmia. The seeds are anti-emetic, and are a cure for bed wetting. The plant is a remedy for ulcers, stomach spasms, stomach and peptic ulcers, and it is excellent for kidney diseases, kidney stones and sand, and aids urinary tract inflammations and benign prostatic hyperplasia. The plant also cures legs swellings (water retention) and is hypoglycaemic. It cures

leukaemia, liver and gallbladder diseases and spleen tumours. The seeds are a general tonic and stimulant for ageing persons. The plant's tea is effective against cold and fever alleviation.
In folk medicine, a shampoo containing 20% nettle oil as an active ingredient diluted in 80% of paraffin oil strengthens hair and helps prevent hair loss.

- **Other uses**: It is a stinging weed. It is partially edible and rich in minerals. Young leaves and fresh stem are eaten as vegetables; its juice can also be drunk but in limited amounts. The plant can be cooked like spinach as it is rich in vitamin C. It can be prepared in a jelly candy, which is characterized by good organoleptic and nutritional properties.
- **Caution**: The stinging cells may cause allergic reactions on the skin, an increase in salivation, weakness and breath disorders, low heart pulses in animals and death.

- **Arabic name**: Fool Al-Arab
- **Scientific name**: *Vaccaria pyramidata* Medik.
- **Common name**: Cowherb, Cow Cockle, Cow Soapwort
- **Family name**: Caryophyllaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Seeds, the whole plant, aerial parts, and roots.
- **Chemical constituents**: The seeds are rich in starch and also contain protein, fat, vacsegoside, gypsogenin, glucuronic acid, glucose, arabinose, xylose, fucose, rhamnose, isosaponarin, saponaretin, vitamins, saponins, , alkaloids, cyclic peptide, phenolic acid, flavonoids, steroids and triterpenoid saponins.
- **Pharmacological action**: The plant is antirheumatic, diaphoretic, anti-pruritic, febrifuge, vulnerary, styptic, oxytocic, galactagogue, emmenagogue, diuretic, antiphlogistic and anodyne. A seed decoction is used to treat skin diseases, menstrual problems, lethargy, sluggishness, breast inflammation, benign breast tumours, and an absence of lactation following labour, and to induce menstruation. It promotes lactation, is used for amenorrhoea from congealed blood, painful swellings (especially of the breasts or testicles), for an effect on the uterus, as a stimulatory, to treat herpes zoster (shingles), to induce labour, to reduce inflammation and to relieve pain. It is also used for abscesses and ulcers. The sap of the plant is a tonic and a treatment for long-continued fevers of a low type. The plant is used externally to cure itches, regulate menses, smooth parturition, disperse swelling carbuncles, and promote healing of incised wounds. It is anti-bleeding and sedative. It is bitter, alterative, evacuates the liver and stomach, agitates the blood and enhances blood circulation. It is used for cancer, eases childbirth, and removes flatulence and swellings. The roots are used for wounds and abscesses.
- **Other uses**: The seeds and leaves are used as a condiment.
- **Caution**: A high dose of leaves causes health problems, mainly affecting the muscles.

- **Arabic name**: Athba
- **Scientific name**: *Vaccinium myrtillus* L.
- **Common name**: Whortleberry, Blueberry
- **Family name**: Ericaceae
- **Growth habit**: Sub-shrub
- **Life cycle**: Perennial
- **Part/s used**: Leaves, non-flowering branches, and fruits.
- **Chemical constituents**: Vitamins B and C, tannins, organic acids, glycoside (arbutin), plant insulins, sugars, pectin in the fruits, mineral elements, organic pigments (anthocyanins), quercetin, and iridoids in the leaves. The anthocyanosides are the most important constituent in drugs.
- **Pharmacological action**: It is astringent, anti-diarrhoeal, antiseptic, diuretic, and a weak anti-diabetic. A leaf infusion is used for gastritis and enteritis. It is also included in tea mixtures and has anti-sclerotic activity, improves vision, and cures glaucoma and vascular disorders. Fresh fruit juice cures surface ulcers in the mouth and tongue, as well as moist skin diseases and itching. Fresh fruits are useful in intestinal rotting, especially for haemorrhoids patients. A leaves decoction is used for urinary system inflammations and reduces blood sugar levels. Anthocyanosides are strong antioxidants, fix collagen fibres, stimulate biosynthesis, reduce fine vascular sclerosis and prevent platelet aggregation. The anthocyanins prevent the production and liberation of materials produced before inflammation such as histamines, prostaglandins and leukotrienes. The extract with vitamin E stops cataract formation in senile cortical patients, ophthalmologic disorders, and the loss of vision resulting from the infection of sensitive blood veins behind the eye in diabetic patients, which leads to retinopathy.
  In folk medicine, dry fruits and leaves are recommended for scurvy, diarrhoea, urinary system infections, kidney stones and diabetes. Fruits are chewed to stop diarrhoea.
- **Other uses**: The fruits are edible fresh or dry, and are made into sweets.
- **Caution**: It is advised not to take a leaf infusion in strong doses or for a long period. The plant extract prevents blood plates' aggregation. High doses should be used with full care by patients of haemorrhagic disorders and those who use anti-coagulants and anti-blood plate aggregations. Its wine and fruit extract cause constipation.



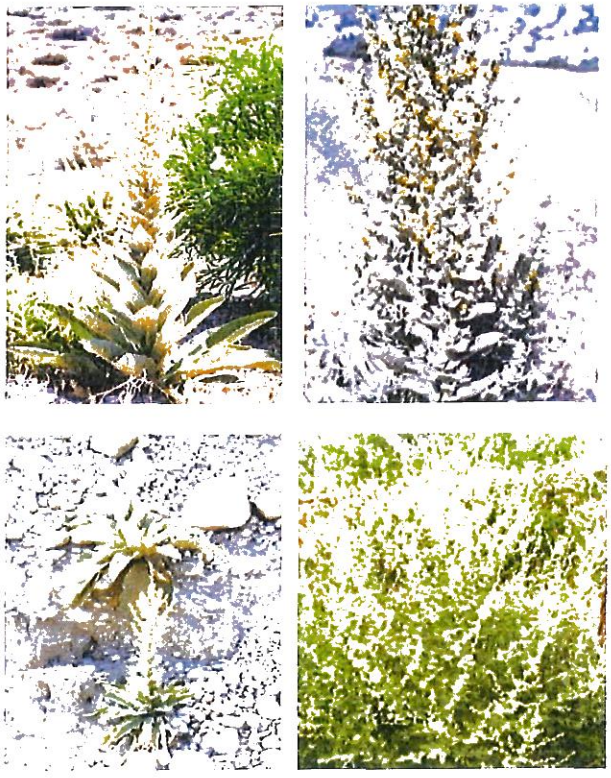
- **Arabic name**: Shtailah, Ktailah
- **Scientific name**: *Varthemia iphionoides* Boiss. and Blanche
- ***Common name***: Common Varthemia
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant.
- ***Chemical constituents***: Flavonoids (quercetin, kumatakenin, xanthomicrol, jaceidin), sesquiterpene lactones, parthenolide, a eudesmane sesquiterpene, essential oils of borneol (49.3%) and its acetyl and formyl esters are the major constituents.
- **Pharmacological action**: The plant is antibacterial, antispasmodic and antifungal. It is used for gastrointestinal disorders, diabetes mellitus, nerve system (tremors), cardiac diseases, stomach and intestine gases, pain and inflammations, eye ailments, abdominal pains, edema, rheumatism and wounds.
- **Other uses**: It is an aromatic plant and a wild flower. It gives an aromatic odour to water when placed on the mouths of drinking water containers and on the tops of buckets containing fresh fruits such as figs, grapes and Indian figs.
- **Caution**: No reports.

- **Arabic name**: Othen Al-Dub, Bosair
- **Scientific name**: *Verbascum fruticulosum* Post
- **Common name**: Mullein
- **Family name**: Scrophulariaceae
- **Growth habit**: Herb
- **Life cycle**: Biennial
- **Part/s used**: Flowers with calyx, leaves, and roots.
- **Chemical constituents**: Saponins, glycosides, tannins, fructose, essential oil, and mucilage.
- **Pharmacological action**: The plant is used against the symptoms of tubercular lung disease, gout, falling sickness, alopecia, cramps, and as an anti-tussive. It is also used for coughs, asthma, migraines, ringworm, ear infections and consequent deafness, itching, eczema, otorrhoea, enuresis, frostbite, bruises, and piles. It helps with pulmonary ailments, strengthens sinuses, and relieves swollen joints.
- **Other uses**: It is famed for curing cattle of 'the scab' and lung diseases. It is a wild flower and weed.
- **Caution**: The plant is poisonous in all parts except the flowers. The downy hairs can cause skin irritation.

- **Arabic name**: Bosair Zaghab, Bosair Tapoosy, Lubeidah, Bosair Abyad, Othen Al-Dub, Bosair, Bosair Shai'i
- **Scientific name**: *Verbascum thapsus* L.
- **Common name**: Aaron's Rod, Great Mullein, Common Mullein, Great Herb, Hedge Taper, Torch, Candela, Candela Regia, Candelaria, Plant of the Lord, Adam's Flannel, Blanket, Shepherd's Club, Cuddie's Lungs, Feldwode, Cow's Lung Wort, Hare's Beard, Jupiter's Staff, Ladies' Foxglove, Velvet Dock, Bullock's Lung Wort
- **Family name**: Scrophulariaceae
- **Growth habit**: Herb
- **Life cycle**: Biennial
- **Part/s used**: Flowers with calyx, leaves, roots, and the whole plant.
- **Chemical constituents**: In the seeds are fatty acids, mainly made from lignoceric acid derivatives, caffeic, ferulic and protocatechuic acids, verbascosides, iridoid monoterpenes, aucubin,6-b-xylosylaucubin,

mrthylcatalpol, isocatalpol, triterpene saponins, sterol (11%), invert sugar (fructose + glucose) and 3% mucilage. It also contains several saponins, coumarin, glycosides, polysaccharides, phytotoxic iridoid glucosides, phenylethanoid and lignan glycosides, luteolin glycoside, xanthophylls, essential oil, tannins, phytosterol, sucrose, galactose, arabinose, xylose, rhamnose, mannose, uronic acid, rotenone, saponoside, verbascoside, ecuopin, xyloscobin, gums, iridoids, eugolin, and glycyrrhizin compounds. Apigenin 7-o-glucosides, kaempferol, rutin and caffeic acid are also present, as are flavonoids, sterones, iridoids and a sesquiterpene. The seed oil contains palmitic, stearic, oleic, linoleic, linolenic, arachidic, and behenic acids, □-sitosterol and ergosta-7-en-3□-ol, triterpenes, fat oligosaccharides, rotenone, verbascose, a new pentasaccharide, and pectins. The iridoid glucosides laterioside, harpagoside, ajugol, and aucubin are present. Mullein leaf is rich in iron, magnesium and potassium.

- **Pharmacological action**: It is an expectorant, expels phlegm, and is a mild diuretic, emollient and vulnerary. A milky lotion containing a plant extract mixture showed skin-moisturizing and conditioning effects.
  It is used for asthma, spasmodic coughs, diarrhoea and other pulmonary problems.
  The plant possesses antibacterial, antiviral, antioxidant, anti-tussive and diaphoretic properties. Externally, it is used in compresses and bath preparations for varicose ulcers and haemorrhoids. It is a sedative, pectoral, cutaneous and antiphlogistic. It is splendid for the entire respiratory system, and strengthens the sinuses and allows free breathing. It is very effective in relieving swollen joints, and is also bitter, mucilaginous, and aromatic, used for bronchitis and sore throats, and its syrup is used against croup.
  The flowers' oil is used against catarrh, colic, migraines, earaches, frostbite and eczema. Plant preparations are effective against warts, boils, carbuncles, and chilblains. Glycyrrhizin compounds in the flowers have bactericidal and potential anti-tumour action.
  In folk medicine, the herb is a cure for tubercular lung disease, gout, falling sickness, hair loss, cramps, migraine, ringworm, ear infection and consequent deafness, itching, diarrhoea, enuresis, frostbite, bruises, piles, and troublesome evils of the fundament. The plant is a laxative and analeptic. In the bath, the plant is used for ulcers, and it is blood cleansing and a sedative. It is used for wound healing, and as an ointment it is a skin emollient and a cure for asthma. A plant oil infusion is used for dermatitis and internal earache. The leaves are smoked for asthma and Plutonian disease. The flowers' tincture is used for pharyngitis.
- **Other uses**: The leaves are used as diapers. Dried stalks become winter bird feeders. It is a weedy species. The oil is used to treat stretch marks. Yellow and green pigments obtained from flowers are used for hair dye (blonde). The plant cures cattle of 'the scab' and lung diseases.
- **Caution**: Except for the flowers, the plant is poisonous in all its parts, and the downy hairs can cause skin irritation. The iridoid glucosides exhibit anti-germination activity on seeds of barley (*Hordeum vulgare*).



Different *Verbascum* species

- **Arabic name**: Raei Al-Hamam
- **Scientific name**: *Verbena officinalis* L.
- **Common name**: Vervain
- **Family name**: Verbenaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant, especially the flowering stems.
- **Chemical constituents**: Verbenaline and verbenine glycosides, bitter materials, tannins, mucilage, essential oil (cetral) and iridoides.
- **Pharmacological action**: The plant is a sedative, thymoleptic, spasmolytic, a mild diaphoretic, a reputed galactagogue, emmenagogue, astringent, diuretic, stomachic, anti-tinnitus, tonic, antispasmodic, vulnerary and hypnotic. As an infusion, it is used against stomach, liver and kidney disorders. A plant maceration is used for insomnia, kidney stones, nerve tiredness, general debility, headaches, tinnitus, palpitations, psychological disorders, anaemia, wound and ulcer washing, and tonsillitis, and as a laxative and uterus stimulant.
- **Other uses**: It was used for hundreds of years as a cleansing herb for altars in homes and temples. It was also the symbol of death.
- **Caution**: Exposure to juice or sap from plants or a puncture wound from the thorns may produce a skin rash or irritation. Skin wounds from some of these plants can be extremely painful, causing large blisters and burning of the skin. The plant must be avoided during pregnancy since it is a uterus stimulant. Its tincture is taken with hot water to reduce its alcohol percentage.

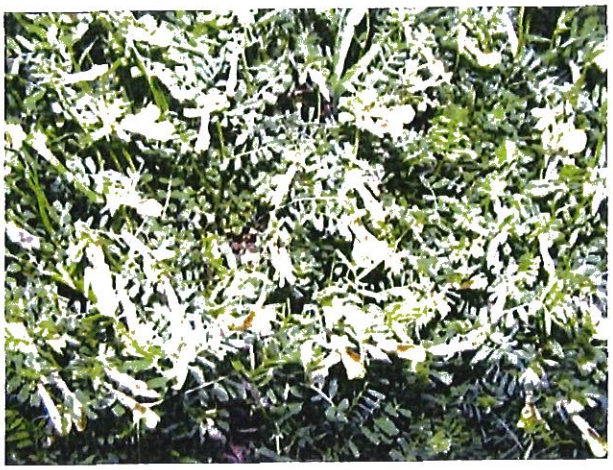
- **Arabic name**: Zahrat al-Hawashi al-Makhzaniya
- **Scientific name**: *Veronica officinalis* L.
- **Common name**: Heath Speedwell, Common Speedwell, Common Gypsyweed, Paul's Betony
- **Family name**: Scrophulariaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The green parts of the plant, and flowering branches.
- **Chemical constituents**: Volatile oil, vitamins (E, pro-vitamin A and others), the glycoside aucuboside, organic acids, sugars, flavonoids, bitter materials, some alkaloids, resin and tannins. Iridoid glucosides including ladroside, together with mussaenoside, are present, as well as flavones (expressed as luteolin), triterpene saponins, saponosides, veronicoside and minecoside, the flavonoids cinaroside (luteolin-7-O-□-D-glucoside) and luteolin (3',4',5,7-tetrahydroxyflavone), mannitol, caffeic acid, cis- and trans-chlorogenic acid, aucubin, isolated as the hexaacetate, isochlorogenic acids and some alkaloids.
- **Pharmacological action**: The plant is used for ulcers. Plant extracts enhance the regeneration of the gastric mucosa, confirming the decoction's useful effects on gastric ulcers. It is a skin-whitening cosmetic, used for coughs, otitis media, and gastrointestinal distress. It is a cure for cuts and wounds, urination difficulties, haematuria, hoarseness, fatigue, the first stage of tuberculosis, and fever. It is a sedative and digestive, alleviates dizziness, anti-cancer, anti-scrofulous, astringent, depurative, sudorific, emetic and expectorant. It helps with bowel movements, strengthens the memory and reduces vertigo. The plant is very useful in the treatment of depression. It is an active anodyne of sinusitis, has a sterile action on urinary tracts, improves liver functions, and is prescribed for respiratory system diseases including bronchitis, laryngitis, dyspnoea, vernal and urinary diseases and some liver diseases. Branches maceration in olive oil at a ratio of 1 to 10 parts is used for curing pussy wounds, furuncles and burns.
- **Other uses**: The plant is used in the food industry.
- **Caution**: No reports.

- **Arabic name**: Fool Eblees, Begiat Libnan
- **Scientific name**: *Vicia narbonensis* L.
- **Common name**: Narbonne Vetch, Purple Broad Vetch, French Vetch
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Peel of green pods.
- **Chemical constituents**: Tannins, saponins, phytic acid and other anti-feeding substances. γ-glutamyl-*s*-ethenylcysteine, a dipeptide, cyanogenic glycoside, γ-glutamyl-*s*-ethenylcysteine, cysteine peptide, protein, and narbonin are also present.
- **Pharmacological action**: The plant is used for Parkinson's disease treatments because of its l-dopa alanine content.
- **Other uses**: The fresh pods are eaten raw, and the seeds are cooked as vegetables. The plant is also cultivated as a crop in the Mediterranean basin, and is harvested and fragmented as an organic fertilizer. It gives a similar taste to garlic because of its sulfur compound contents. It is used in the dyeing and tanning industries. The thick extract of green pods is baked or boiled and eaten.
- **Caution**: Tannins affect protein consumption, and inhibit digestive enzymes' activities. The vetches are toxic to non-ruminants, at least if ingested in high quantities. Cattle and horses have been poisoned by *V. villosa* and *V. benghalensis*. Common vetch as well as broad bean and probably other species of *Vicia* contain oxidants like convicine, isouramil, divicine and vicine in quantities sufficient to lower glutathione levels in G6PD-deficient persons, causing favism disease. At least broad beans also contain the lectin phytohemagglutinin and are somewhat poisonous if eaten raw.

- **Arabic name**: Jelban, Sinn Alfar
- **Scientific name**: *Vicia peregrina* L.
- **Common name**: Broad Podded Vetch
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Seeds and aerial parts.
- **Chemical constituents**: Cyanogenic glycosides, vicine, divicine, convicine, amino acids, saponins, protein, tannin and fatty acid. The oilseeds of *Vicia* species contain palmitic and stearic acids as the major components of their saturated fatty acids, with small amounts of myristic, palmitoleic and margaric acids. The major unsaturated fatty acids found in the oilseeds were oleic, linoleic and linolenic. The total saturated fatty acids of *Vicia* species are between 18.5 and 22.4% while the total unsaturated fatty acids were between 71.1 and 80.3%.
- **Pharmacological action**: The plant is used for scurvy, and is beneficial for the liver, diuretic, a weak stimulant, and anti-microbial pollution.
- **Other uses**: *Vicia peregrine* seed has potential as an alternative feed ingredient. The plant is a wild flower.
- **Caution**: The plant causes skin blotches, alopecia, digestive system disorders, weakness, weight loss, dyspnoea and rapid death.

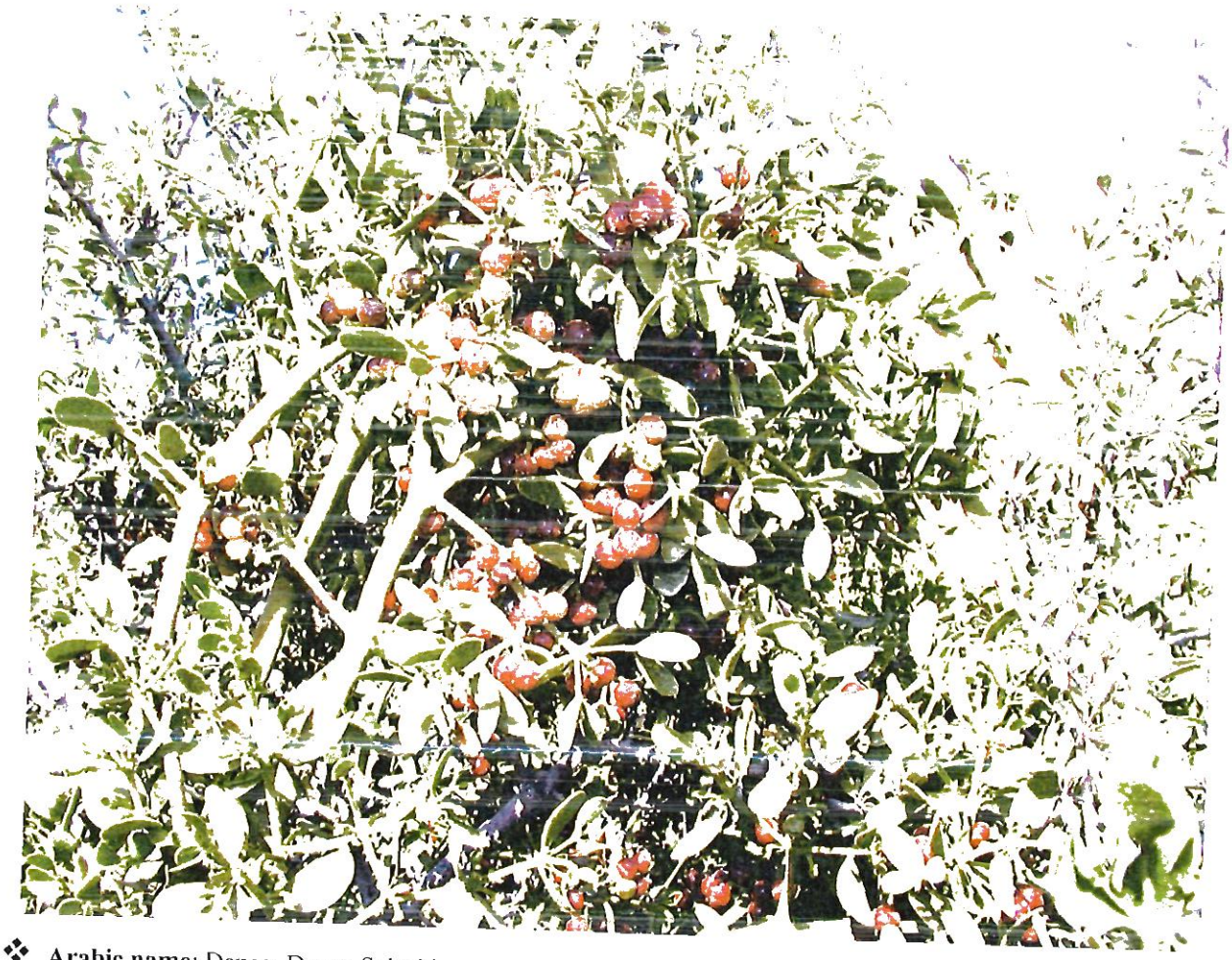
Vicia sp.

Vicia palaestina



Vicia syriaca

Different *Vicia* spp.



- **Arabic name**: Dapaq, Dapaq Saleebi
- **Scientific name**: *Viscum cruciatum* Sieb.et. Boiss
- **Common name**: Mistletoe, Red-Berry Mistletoe, All-Heal, Vogelleim, Gui, Thunder-Beson, Devil's Fuge, Spectre's Wand.
- **Family name**: Viscaceae
- **Growth habit**: Hemi-Parasite and Sub-Shrub
- **Life cycle**: Perennial
- **Part/s used**: Small branches without fruits, leaves, flowers, and the whole plant except fruits.
- **Chemical constituents**: Alkaloids, flavonoids, coumarins, saponins, sterols, tannins, and terpenes. Fixed oil, sugar and starch. In fruits, vitamin C, carotenes, resin, bitter glycosides, tetronic derivatives, viscotoxin (cardiotonic) made from amino acid and sugar. Arginine, viscirine, viscol, beta-viscol, viscotoxin, choline, acetylcholine, tyramine, histamine, lecithin (believed to affect cancer cells) and polypeptide, in addition to bitter glycosides in the cortex, poisonous material, alkaloids, saponins and mucilage.
- **Pharmacological action**: It is a cure for various gastrointestinal and inflammatory disorders. It is spasmogenic, spasmolytic, and anti-platelet activities. It is used to treat skin diseases and prostate cancer. It is mucilaginous, astringent, aromatic and bitter. It stimulates heart action, is anti-carcinogenic, reduces blood pressure and bends and thus overcomes arteriosclerosis that causes age complaints. It normalizes the blood cycle, terminates its disorder in aged people and relieves heart and cycle noticeably. The associated complaints such as an inclination to collapse, swindles, nausea, headaches, morning tiredness and rushing sounds in the ear are eliminated. The plant is used for asthma, rheumatism, intestinal inflammation, arteriosclerosis, diarrhoea, whooping cough, anti-bleeding, vasodilators and hypotension. It is incorporated in drug formulations used for ageing diseases, and a cold maceration is used as a cardiotonic drug. This is due to the presence of viscotoxin. The leaves' extract is anthelmintic. Externally, it is used for skin diseases and it helps with wound healing. The plant is used for hysteria and epilepsy, and it inhibits tumours, including cancerous ones. It cures chronic muscular problems. It is diuretic and cures albuminuria, menopausal problems and coughs.

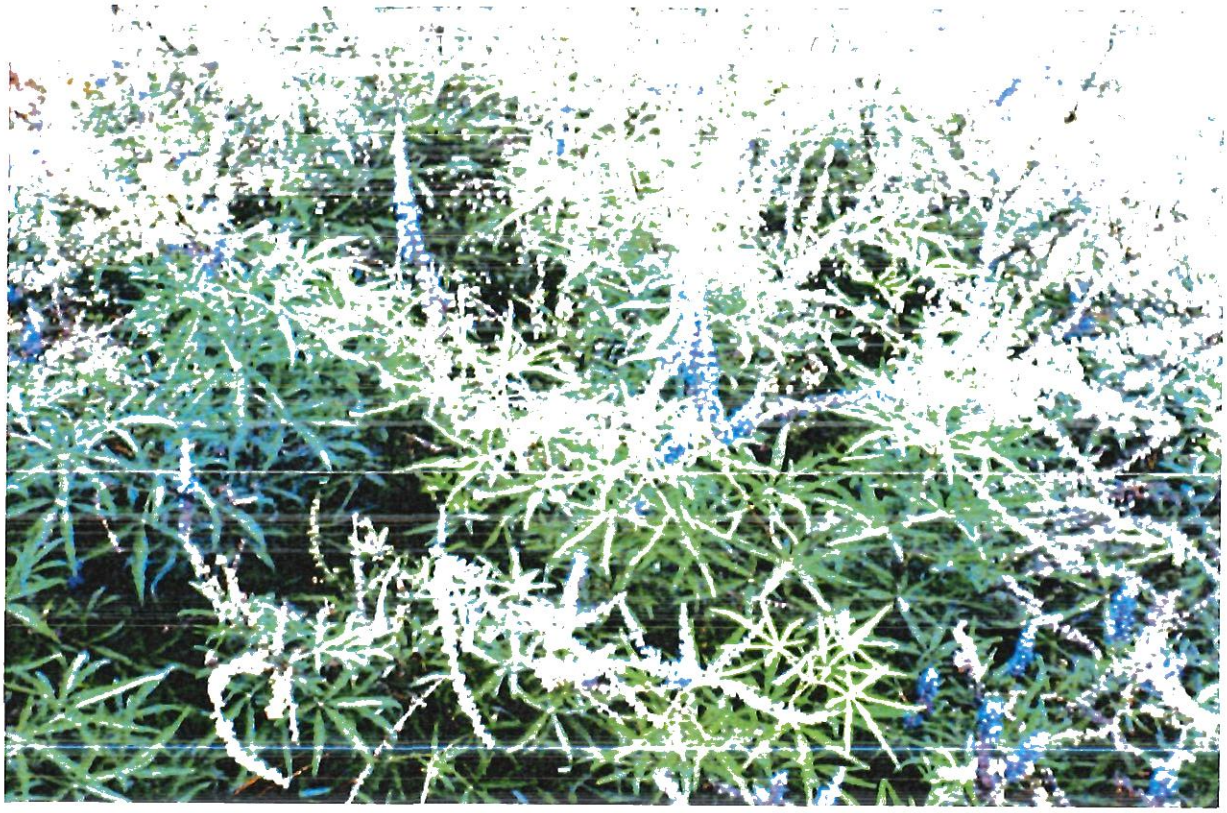
  In folk medicine, the dried young twigs and leaves are the principal medicinal components, and are employed against convulsions, giddiness, albuminuria, skin eruptions resulting from colds, whooping cough, leucorrhoea and tissue sclerosis causing ageing ailments. It also alters blood period disorders, is restful for the heart and blood circulation, and alleviates pains associated with collapse, nausea, headache, morning

tiredness, and ear noise. It was also thought to lessen reflex irritability and provide a tonic for the heart (as it strengthens the heartbeat). Chewing the plant's berries provides immediate relief from stitches.

Viscum album lowers blood pressure, and is used in cancer therapy. It has also been documented as a traditional treatment for diabetes. Children living in areas exposed to the radiation fallout from Chernobyl with recurrent respiratory infections were treated with *Viscum album*, resulting in normalization. Mistletoe extracts represent the most important unorthodox oncology therapy in Germany.

- **Other uses**: It is a parasitic, poisonous plant.
- **Caution**: It is a poisonous parasite because of the viscotoxins and lectins. Large doses are toxic and should be used under professional supervision. Toxicity symptoms include difficulty with head motion, an inability to stand up, salivation, a dark urine colour, reduced body temperature and weak pulses. Children fed on the fruits showed blue lips, eye inflammations, weak heart pulses, dyspnoea, coma, and vomiting, and it may cause jaundice when used in folk medicine.

  The plant parasitizes certain species of shrubs and trees, and is reproduced by seeds being dispersed by birds that have fed on the fruits which then place the parasitic seeds on the stems and branches of host plants.



- **Arabic name**: Kaff Al-Jathma'i, Kaff Mariam, Ghar
- **Scientific name**: *Vitex agnus-castus* L.
- **Common name**: Chaste Tree, Cattilier Vitex, Chasteberry, Abraham's Balm, Abraham's Bush, Monk's Pepper.
- **Family name**: Verbenaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: All plant parts, leaves, tender stem growth of the upper 10 cm, flowers, lateral growth, mature seeds, and fruits.
- **Chemical constituents**: The leaves, flowers and fruits contain polyphenols (flavonoids, iridoids, ketosteroids, alkaloids, and essential oil), tannins, isovitexin flavonols, kaempferol, ramnoglycoside, quercetin, rutin, linoleic acid, calcium, volatile oil, alkaloids, a bitter principle (castene), iridoid glycosides (aucubin, agnuside), and flavonoids (casticin, isovitexin, orientin). Fatty acids, ecdysteroids, and linoleic acid as an estrogenic compound are obtained from the fruits. The oils are composed of monoterpenes and sesquiterpenes. The principal constituents of the terpenoids are limonene, cineole, sabinene, and □-terpineol, while the major sesquiterpenes are □-gurjunene, cuparene, and globulol. In addition, □-pinene, □-caryophyllene and (E)-□-farnesene are present. Diterpenoids, vitexin, casticin and steroidal hormone precursors are also present, as well as glucosides, steroid diterpenoids and 3-hydroxy-pregnan-20-one, vitexlactam A, a labdane diterpene lactam from the fruits and orange bioflavonoids. The plant also contains beta-sitosterol, campesterol, cholesterol, stigmasterol, glucose, coumarins, selsicholate (glucoiberin), essential oil and iroids.
- **Pharmacological action**: The plant is used for burns, colds, headaches, external fumigation, as a galactagogue, and for blood circulation disorders with concomitant hyperprolactinemia.
  Plant extracts and oil possess antibacterial and antifungal activities, and the extracts also contain dopaminergic compounds that improve premenstrual mastodynia and possibly other symptoms of the premenstrual syndrome, including coronary heart disease and osteoporosis. The extract has antimicrobial activity and is most effective against the salmonella bacteria.
  The plant cures eye diseases, colic, gastric disturbances, toothache, stomach ache, and joint pains and is a tonic for the reproductive organs. It stimulates and normalizes the pituitary function, especially as it relates to progesterone, helps to restore a normal estrogen-to-progesterone balance, and balances female sexual energy. It is used for cyclical mastalgia and luteal phase defects. It is a uterine fibroid control for bleeding symptoms. The essential oil is used against disorders of the female sexual organs and as an aphrodisiac. The herb enhances hormone balance by increasing progesterone release. A fruit extract has an anti-androgenic effect.

The plant alleviates dizziness and mental problems and is recommended for balancing female hormones, although it affects both male and female hormone functions. It may be helpful in cases of fibroid cysts, and is used for certain female problems involving the part of the ovary involved with egg production and release. The plant is included in male supplements because of its effects on testosterone levels. Chewed ripe and dry berries create a hormonal balance effect for women. The plant's extract has luteotropic action and the flavonoid-enriched fraction of *V. negundo* fruits has an anti-androgenic action. Plant smoke is inhaled for children's cold and stomach problems. Its juice removes piles, leucoderma, and phlegm, and enhances bile. The plant powder heals wounds and is useful for ophthalmia. A seed decoction with cumin seeds prevents afterbirth bleeding and a plant decoction cures dysentery. Fresh leaves cure some stomach diseases and the seeds are used for head, stomach and joint ailments. The plant is effective against burns, for external sterilization and is a galactagogue. It stops fibrosis of a bleeding uterus and its essential oil is used for female sexual activity disorders. A plant maceration facilitates birth, cleans the uterus after birth, is an emmenagogue, and helps with blood periods, menopause and epilepsy.

- **Other uses**: A wild flower and ornamental plant. It is used as a spice in different foodstuffs.
- ***Caution***: The plant is to be avoided during pregnancy due to the possibility of complications and because it is a uterine stimulant. It should not be taken with hormones. An excess produces the sensation of crawling skin.

Vitex psedo-negundo

- **Arabic name**: Samwah, Somm Al-Furakh, Somm Al-Far
- **Scientific name**: *Withania somnifera* (L.) Dunel.
- **Common name**: Winter Cherry, Clustered Withania, Ashwagandha, Indian Ginseng.
- **Family name**: Solanaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Root, leaves, bark, fruits, flowers and seeds.
- **Chemical constituents**: Alkaloids, steroidal-lactone salts, withasol, withanolide A, withaferin A, withanosides I, II, III, IV, V, VI, and VII, new withanolide glycosides, alkaloids and steroidal lactones. These include tropine and cuscohygrine. Withanamides, glycoprotein, synephrine, withanine, withaferin, tropine, pseudo-tropine, anaferine, anahygrine and acyl glycoside. The leaves contain cortisone lactones (withanolides). The plant also contains methanol, sominerol, black resin atropine, and alkaloids, amino acids, steroids, volatile oil, starch, reducing sugars, glycosides, hentriacontane, dulcitol, and withaniol in the roots.
- **Pharmacological action**: The plant is a powerful antioxidant, and it is anti-carcinogenic, antibacterial, cytotoxic, tonic, diuretic, anthelmintic, narcotic and sedative. It cures burns, infertility, scorpion stings, snake bites, sunburn, swellings, wounds, headaches, and stomach ache. It is effective as an analgesic and for treating impotency, alcoholism, dyspnea, emphysema, neurosis, ophthalmia, and spermatorrhoea. It is an aphrodisiac, deobstruent, lactagogue and nervine. The plant is cardioprotective and is used against arthritis, stress and in a herb mixture to treat rheumatoid arthritis.
  The boiled leaves' extract is useful against fever and ulcer pains. The fruit is a remedy for toothache, and the seeds are used for stomach pains, digestion and to regulate the menstrual cycle. The berries and leaves are locally applied to tumours, tubercular glands and carbuncles.
  The root is anti-epileptic, and is used for rheumatism, epilepsy, coughs, colds, leucorrhoea, tuberculosis, asthma, ulcers, debility, constipation, and anorexia. The dried root powder cures nervous and sexual disorders and infertility, and the tuber is a cure for inflammatory conditions, psoriasis, scabies and strangury.
  Withaferin A has anti-metastatic activity in mice. A mixture of arsenic trioxide (As_2O_3) and herbs including *W. somnifera*, or a mixture of their active ingredients, is effective for the treatment of cancer, in particular refractory leukaemia, lymphomas, myelodysplastic syndrome and aplastic anaemia. Withaferin A exerts a potent anti-angiogenic activity and is of great potential in cancer treatment or prevention. Withasol is also

used for ameliorating naturally occurring immune suppression or as an anti-tumour agent. The withanamides and withanolides are used to treat depression, Alzheimer's disease, obesity and migraine headaches. Withanolides may have anti-tumour, antiphlogistic and neuroprotective activities. Withanolide A may be effective for neurodegenerative diseases, since it is able to maintain neuronal networks.

The anti-toxic-PLA_2 glycoprotein from the plant and its aqueous extracts neutralize the PLA_2 activity of snake venom.

In folk medicine, the plant cures tumours, glands, tuberculosis, furuncles, and ulcers. It alleviates symptoms of addiction cravings and is used in cases of alcohol addiction and alcohol poisoning, and it also reduces anxiety and arthritis pains, and cures tuberculosis, Parkinson's disease, bone cancer and diabetes. It is also used for joint pain, as a liver tonic and to cure eye infections.

- **Other uses**: A wild flower.
- **Caution**: The plant is highly toxic and causes severe ailments in the intestine and stomach. It contains cytotoxic lactones such as withaferin A, and withanolides in the root; the piperidine alkaloids include anaferine, anahygrine and various other alkaloids including withanine, somniferine, somnine, and tropine.

- **Arabic name**: Hasak, Shubaeit
- **Scientific name**: *Xanthium spinosum* L.
- **Common name**: Spiny Cocklebur, Coltbur, Burweed Spiny Cocklebur, Prickly Burweed, Bathurst Burr
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves, stem, roots (autumn), seeds, and the whole plant.
- **Chemical constituents**: Xanthostrumarin, iodide compounds, vitamin C, hydroquinone, volatile oil, potassium nitrate, alkaloids, non-alkaloidal resin, starch, sterols, flavonoids, sesquiterpenes, hydroquinone diterpene glycosides, xanthanolides and sesquiterpene lactones including xanthinin, stizolicin, and solstitialin. Caffeic and chlorogenic acids, quercetin, an unidentified flavonoid, tannins, formic acid, xanthatin and an edible oil are also present.
- **Pharmacological action**: Formic acid has antiseptic properties and the alkaloids affect the central nervous system. The sesquiterpene lactones have anti-tumour properties, and are used against hydrophobia and intermittent fever. Xanthatin has antimicrobial activity and is effective against *Colletotrichum gloeosporoides, Trichothecium roseum, Bacillus cereus* and *Staphylococcus aureus*.
  The plant is a refrigerant and its roots' infusion has been used as an emetic. It is a reputed sialagogue, is sudorific, may be employed as a prophylactic against ague, is an anti-periodic when the patient is subjected to profuse sweating, and prevents the recurrence of chills when they have been broken. It may be employed for any disease where there is nervous excitement attended by sweating, it has a soothing action upon the urinary tract, and it is a good remedy for passive haematuria. Some have reported success with it in postpartum haemorrhages, and this agent has a specific action in chronic cystitis. The seeds' edible oil is used for bladder infection, herpes, and erysipelas, and is employed in the treatment of gonorrhoea.
  The plant is a laxative, sedative, fattening, anthelmintic, tonic, digestive, diuretic, styptic, anti-diarrhoeal, febrifuge and anti-carcinogenic. It improves the appetite, moodiness, memory and cures choleretic and liver defects and toxicity resulting from insect stings. It is also used for epilepsy, salivation and smallpox. It is a cure for food metabolism disorders, cystitis, and rheumatism. Plant juice is anti-dysenteric, and is used for severe itching and throat swellings. The seeds are used for dysentery and are sedative. Sesquiterpene lactones are anti-tumour, and are used for hydrophobia and fever. Xanthatin is antimicrobial and effective against

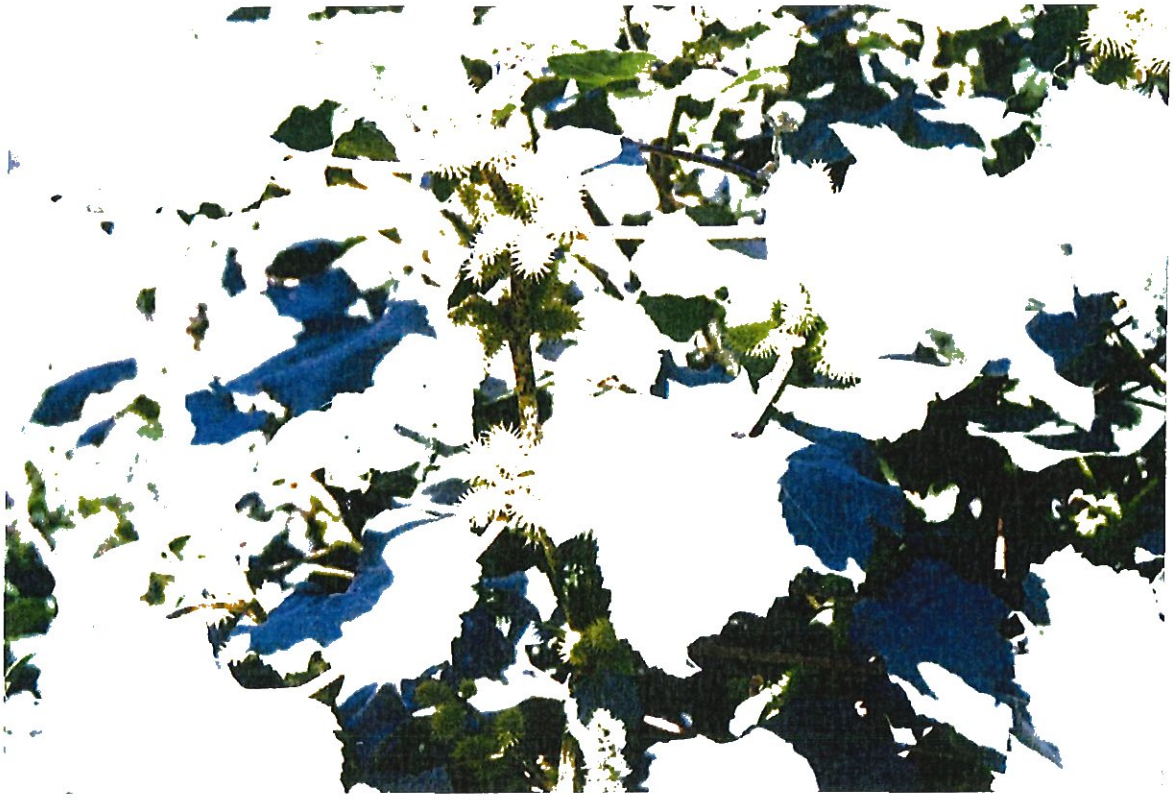
different infectious bacteria species, and it is also a disinfectant, and affects the central nervous system. It helps with urination ailments and fever.

- **Other uses**: The plant has been used for obtaining a yellow dye and repelling armyworms and other pests from nearby crops. A plant extract is used for hair dye. *Xanthium* yields xanthinin, which acts as a plant growth regulator. Its cake can be used as manure, whereas the shell can be used as an activated carbon, and the seed oil is edible. The plant is regarded as a wild flower and weedy species.
- **Caution**: The genus is known to contain diterpenes, carboxyatractyloside, and some species may contain indole alkaloids such as vincamine. Toxicosis is usually associated with the consumption of the seedlings at the cotyledon stage, as they contain a high concentration of carboxyatractyloside. The seeds are also known to contain the toxin. It invades agricultural lands and can be poisonous to livestock, including horses, cattle, and sheep. It has been reported as fatal to cattle and pigs. Some domestic animals avoid consuming the plant if other forage is present, but less discriminating animals, such as pigs, consume the plants and are then poisoned and die. The seedlings and seeds are the most toxic parts of the plants. Symptoms usually occur within a few hours, producing unsteadiness and weakness, depression, nausea and vomiting, twisted neck muscles, a rapid and weak pulse, breathing difficulty, and eventually death. In cases benefited by it there is an excess of mucus and a uric acid diathesis, the bladder walls are thickened, urination is tenesmic and frequent, and gravel or minute calculi may pass continually. It is frequently used with red onion. It causes allergic contact dermatitis.

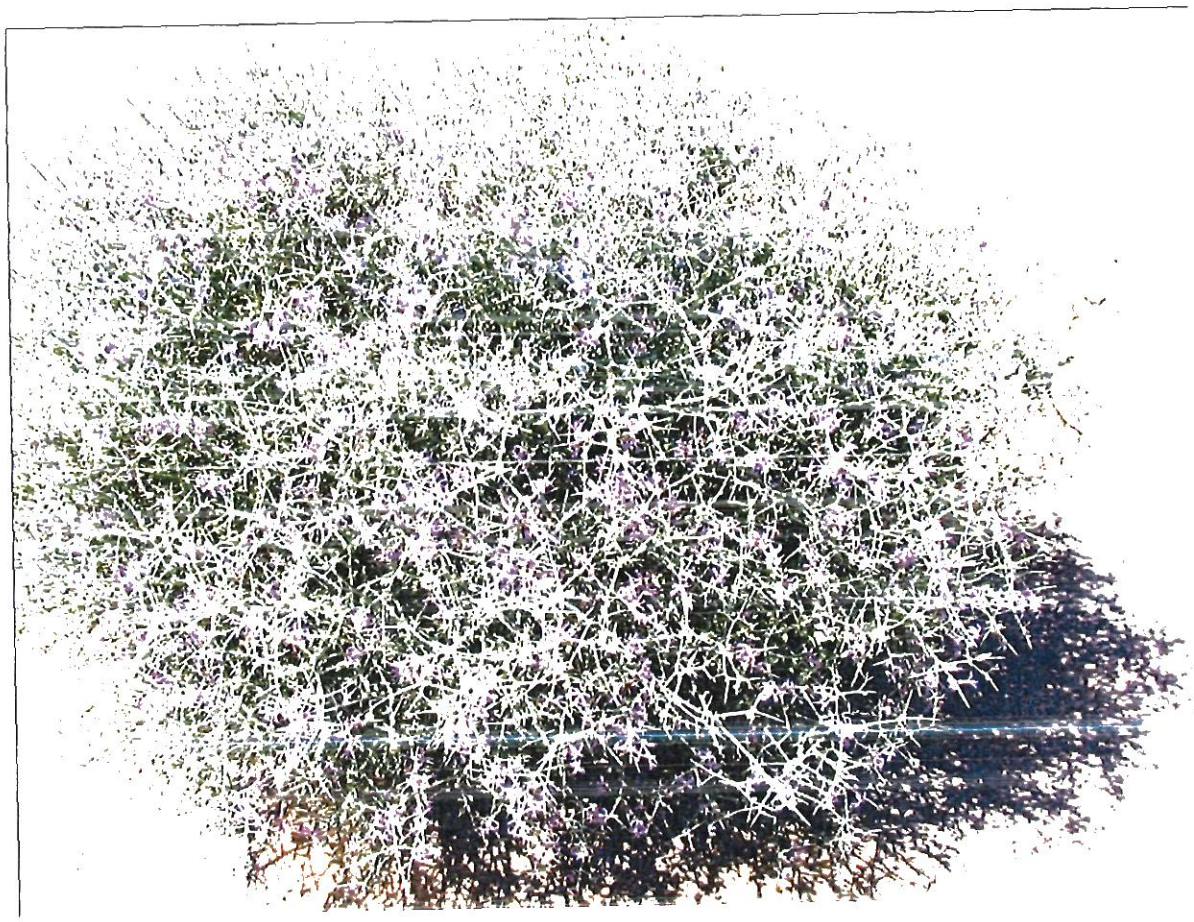
Xanthium sp.

- **Arabic name**: Hasak, Shubeit, Luzaiq, Shubeit Areed
- **Scientific name**: *Xanthium strumarium* L.
- **Common name**: Common Cocklebur, Small Burdock, Clotbur, Burweed Rough Cocklebur, Large Cocklebur, Woolgarie Bur.
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The flowering plant.
- **Chemical constituents**: Carbohydrates, sugars, dietary fibre, fat, protein, tryptophan, threonine, isoleucine, leucine, lysine, methionine, cystine, phenylalanine, tyrosine, valine, arginine, histidine, alanine, iodide compounds, carboxytractyloside, aspartic acid, glutamic acid, glycine, proline, serine, vitamin A, lutein and zeaxanthin, thiamine (vitamin B_1), niacin (vitamin B_3), folate (vitamin B_9), vitamin C, iron, magnesium and potassium. The toxic alkaloid xanthostromarin and other alkaloids, hydroquinone, diterpenes and the carboxyatractyloside alkaloid xanthatin are also present.
- **Pharmacological action**: It is a refrigerant, laxative, sedative, diaphoretic, fattening, anthelmintic, alexiteric, tonic, digestive, and antipyretic. It improves the appetite, voice, complexion, and memory. It is a cure for leucoderma, biliousness, poisonous bites of insects, epilepsy, salivation and fever. Xanthinin has antibacterial activity and the seed oil is used for bladder infections, herpes, and erysipelas. It is diuretic and styptic, and cures diarrhoea, cancer, and smallpox. It is useful for dysenteric treatments. A decoction of the dry plant is used for thyroid gland swellings and haemorrhoids.
- **Other uses**: Xanthinin acts as a plant growth regulator. The seed yields a semi-drying edible oil (30-35%) resembling sunflower oil. The cake can be used as manure, whereas the shell can be used as an activated carbon.
- **Caution**: The genus is known to contain diterpenes and carboxyatractyloside, and some species may contain indole alkaloids, e.g. vincamine. Toxicosis is usually associated with the consumption of the seedlings at the cotyledon stage, as they contain a high concentration of carboxyatractyloside. The seeds also are known to contain an extremely toxic chemical. Small quantities of parts of the mature plants may be consumed; however, the seeds and seedlings should not be eaten in large quantities because they contain significant concentrations of carboxyatractyloside. The mature plant contains other toxins. Animals have also been

known to die after eating the plants. Its consumption may cause muscle spasms, hyperexcitability, muscular incoordination, prostration, and revulsions. Xanthostromarin is toxic, and causes weakness, vomiting, low temperature, convulsion, anorexia, then death. Low doses of the herbal parts can possibly be eaten, but the seeds and seedlings are dangerous and should not be internally taken.



Xanthium echinatum Murr.



- **Arabic name**: Sal'la, Shaja, Seela, Shubrum
- **Scientific name**: *Zilla spinosa* (L.). Prantl
- **Common name**: Arabic Silla, Shubrom, Zilla
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: The whole plant.
- **Chemical constituents**: Quercetin 3-*O*-L-rhamnopyranosyl (166)-β-glucopyranoside, kaempferol 3-*O*-L-rhamnopyranosyl (166)-β-D-glucopyranoside, quercetin-3-*O*-α-L-rhamnopyranoside, quercetin-3-*O*-β-glucopyranoside, kaempferol 3-*O*-β-glucopyranoside, quercetin, kaempferol, glucosinolates of free sinapine, progotrin, goitrin, flavonoids, triterpenes, carbohydrates and sterols.
- **Pharmacological action**: The plant is used for kidney stones, and is hepatoprotective (due to the flavonoids). The extract has an active influence on the breast cell line. It is used as a drink to expel kidney and gallbladder stones. Some of the chemical compounds have a wide spectrum of biological activities, including antioxidant, antifungal, hepatoprotective and antiviral activities.
- **Other uses**: A wild flower and rangeland species.
- **Caution**: No reports.

Fruiting stage

- **Arabic name**: Sidir, Doom, Sidr, Nabaq
- **Scientific name**: *Ziziphus lotus* (L.) Lam.
- **Common name**: Thorns
- **Family name**: Rhamnaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Fruit, leaf, branches, and root.
- **Chemical constituents**: Cyclopeptide alkaloids, polyphenolics, alkaloids, dammarane saponins and flavonol glycoside. The fruit pulp contains vitamins A and C and is a rich source of linoleic acid. The leaves are rich in vitamin E and linolenic acid, and emodin and flavon are in the bark and fruits.
- **Pharmacological action**: The plant possesses antibacterial, anti-cancer, anti-diabetic, anti-nociceptive, antioxidant, anti-hypertensive and anti-diarrhoeal properties. The root powder or bark is used for toothache and gums, and a paste of roots, leaves and branches is used for arthritis. It is also used for intestinal ailments, colds and skin care. A leaf powder is used to wash and clean bodies of the dead and the leaves are used to treat dandruff and counter obesity. The extract showed immunosuppressive effects. The fruits and the leaves are emollient, and are used for the treatment of diarrhoea and intestinal diseases. Recently, the antiphlogistic, analgesic and anti-ulcerogenic activities of this plant were demonstrated in rodents. It is possible that the anti-spasmodic activity of extracts of root, barks and leaves induced contractions of the isolated rat duodenum.
  Z. lotus extracts contain anti-spasmodic constituents mediating their effect through cholinergic receptors and blockade Ca_2+ influx. This could explain the traditional use of *Z. lotus* in the treatment of intestinal diseases. *Z. lotus* is not only a reliable natural source of antimicrobials but also a potential source of phenolic antioxidants.
  In folk medicine, the plant is used as a stomachic, appetizer, astringent and a cough medicine. A leaf decoction is used for head lice, and the fruits treat skin troubles and coughs, and are a chest emollient. The fruit, leaves and seeds are anti-acidic for the stomach and anti-hypertensive.
- **Other uses**: The fruits are edible. A paste of dry fruits is used by Bedouins as bread in the winter. The wood serves for artistic woodwork, while the branches and trunk are used as firewood and high quality charcoal. A leaf powder mixed with hot water is used by women as a hair wash and is very effective as a shampoo.
- **Caution**: No reports.

- **Arabic name**: Sidir, Doom, Sidr, Nabaq
- **Scientific name**: *Ziziphus spina-christi* (L.) Desf.
- **Common name**: Christ's Thorn Jujube
- **Family name**: Rhamnaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: The wood, fruits, leaves and the whole plant.
- **Chemical constituents**: Volatiles in flowers, four saponin glycosides in leaves, saponins, tartaric acid, tannic acid, zizyphique acid, betulinic acid and ceanothic acid, cyclopeptide alkaloids franganine, mauritine C, and sativanine, and the flavonoids quercetin, hyperoside, rutin and quercetin-3-O-[beta-xylosyl-(1-2)-alpha-rhamnoside] 4'-O-alpha-rhamnoside. The cyclopeptide franganine, beta-xylosyl and alpha-rhamnoside are also present.
- **Pharmacological action**: The plant contains medicinal compounds that have adhesive, deodorant, and emollient effects. It possesses anti-cancer, anti-diabetic, anti-nociceptive, anti-hypertensive and anti-diarrhoeal properties. It is analgesic, astringent, cleanser, and tonic, and is used against blisters, bruises, chest pains, dandruff, fractures, headaches, toothache and gum problems, respiratory problems, rheumatism, high cholesterol levels, ophthalmia and alopecia.

  The fruits are nutritive and astringent, and are eaten to counteract colds, for weight loss, and as a nerve spasmodic and liver tonic. The leaves are hypotensive. A bath containing the plant cleans the head, alleviates temperature, is useful for diarrhoea, calms bile, nourishes the body and is an appetizer. The stem is an intestine tonic, cures bile disorders and is a deodorant.

  The volatile content has promising antimicrobial activity against a number of microorganisms. It is antiviral, antifungal and antibacterial. It is also hypoglycaemic, and is used for abdominal pain, constipation and intestinal parasites.

  Macerated or crushed leaves clean the body and hair, making it smooth and shiny. They are used in poultices for arthritis and painful inflammations; they also cure some skin diseases and breast tumours, and are useful as an expectorant, laxative and febrifuge, as well as for measles and stomach ulcers. A leaves decoction is astringent, anthelmintic, and anti-diarrhoeal, strengthens hair roots, and is useful against asthma and pulmonary diseases; furuncles may also be bandaged by leaves. A fruit infusion cures measles, cooked wood is useful for peptic ulcers, uterus bleeding, menstruation and diarrhoea, and the plant's gum removes blotches.

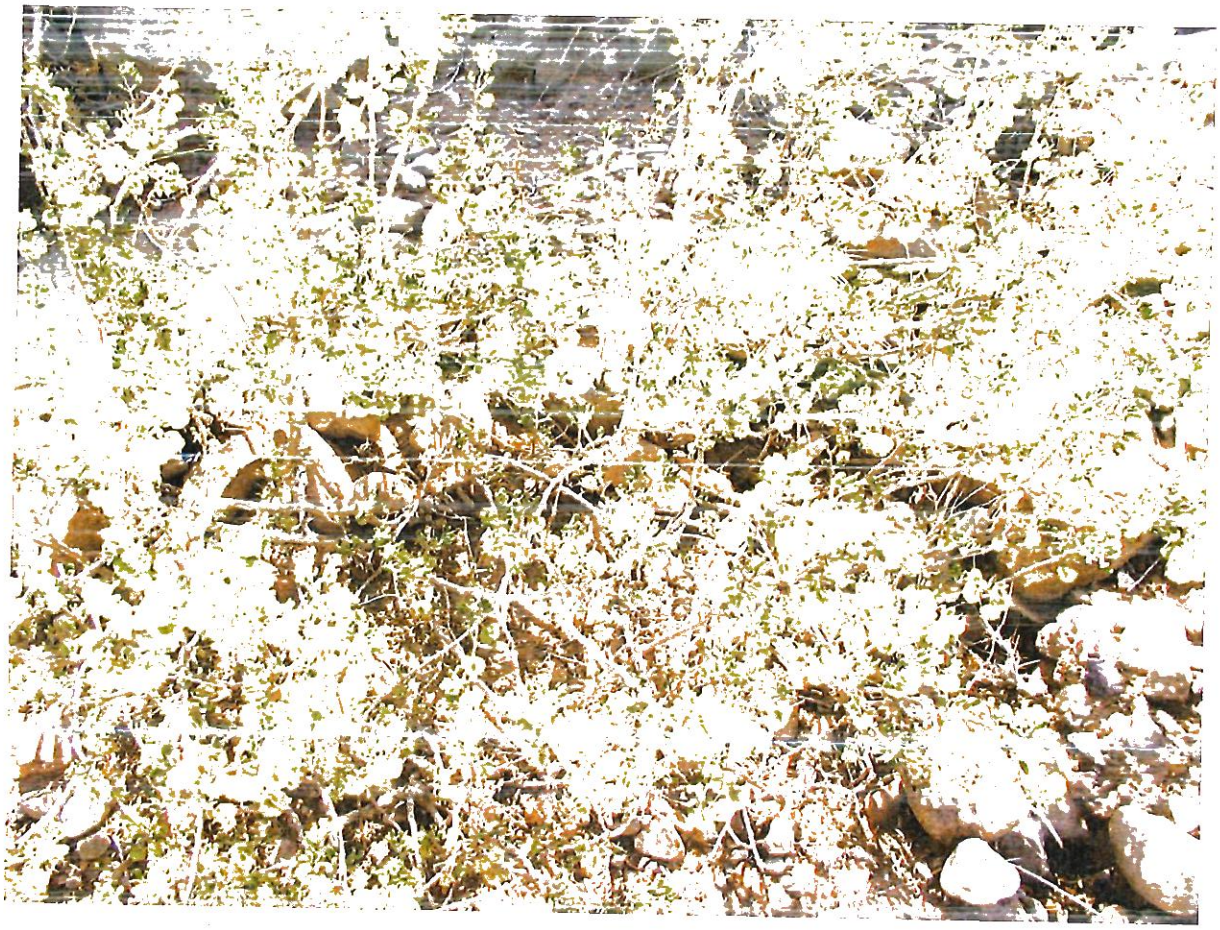
In folk medicine, coal from the wood is used for snake bites, arthritis, muscle pains, asthma, heart pains, stomach disorders, and heartburn, is a general painkiller, anthelmintic, sedative, and anti-haemorrhoidal, and increases milk production. A leaf poultice is used for furuncles and ophthalmia, and fruits are used for fevers and are prescribed for measles. The plant is useful for basic cosmetics and cleansing cosmetics.

- **Other uses**: Raw fresh and dry ripe fruits are edible. Hair shampoos can be produced from the leaves. The wood is heavy and hard, and thus is used for boat construction, the leaves are used in animal feed, and the plant is a sandy soil binder and used for shading. The plant is a very common species in tropical and sub-tropical regions in Jordan.
- **Caution**: No reports.

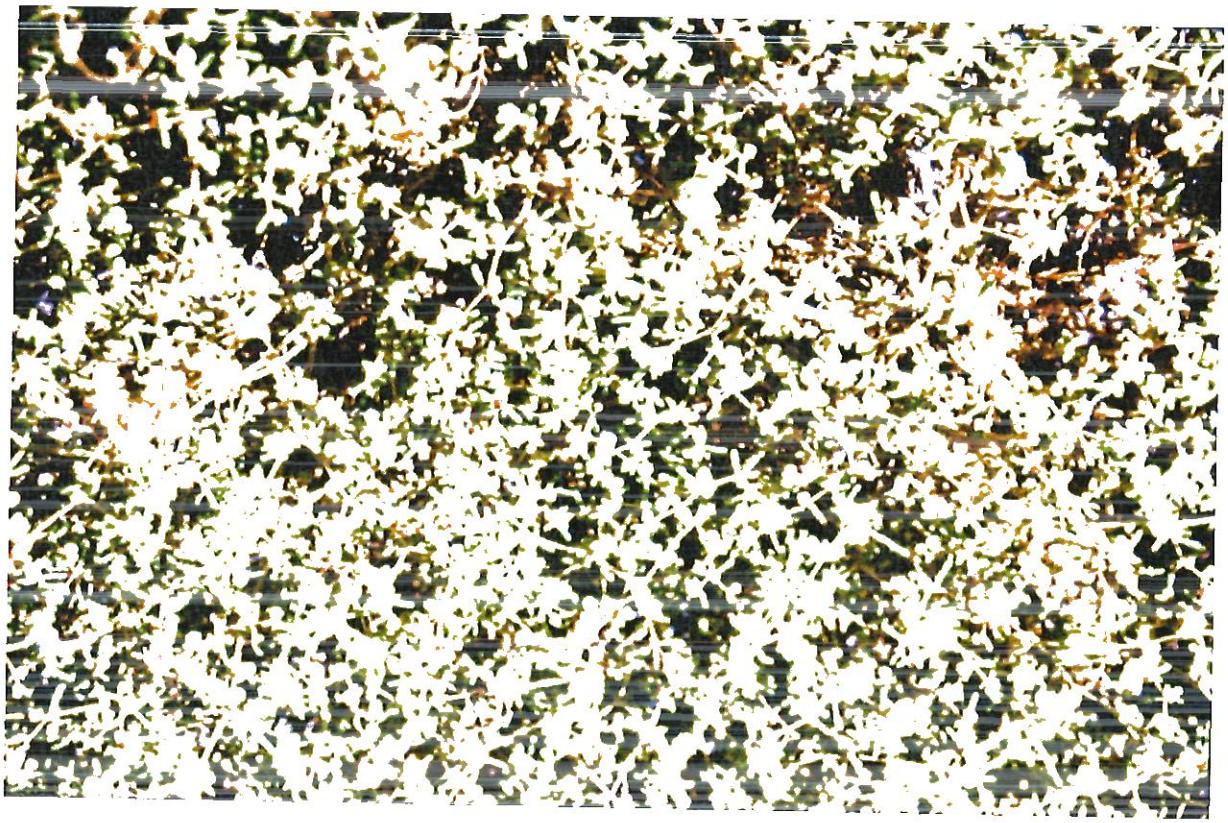
Mature fruit stage

Flowering twig

- **Arabic name**: Athb, Athba
- **Scientific name**: *Zygophyllum coccenum* L.
- **Common name**: Bushy Bean Caper
- **Family name**: Zygophyllaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Fruits, vegetative parts, leaves and their juice and seeds.
- **Chemical constituents**: Tannins, alkaloids among which is zygofabgin, saponins and vitamin C.
- **Pharmacological action**: It is an antimicrobial plant. Macerated leaves heal wounds, and cure tumours and abscesses. The aqueous extract reduces blood pressure, is diuretic, antipyretic, and a local anaesthetic, and has anti-histamine activity. The plant is anodyne, antiphlogistic, anti-asthmatic, anti-rheumatism, anthelmintic against ringworms and a hypoglycaemic. It is possibly good for diabetes.
  In folk medicine, the plant is used for rheumatism, gout, coughs, hypertension, and flatulent colic.
- **Other uses**: It is a wild flower in the Dead Sea area, Jordan valley and Wadi Arava.
- **Caution**: No reports.



Flowering plant



Zygophyllum dumosum Boiss

In Ghor Al-Safy

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GLOSSARY OF MEDICAL TERMS

Abdominal colic: Intense cramping or colicky pain, which may be accompanied by nausea and vomiting.
Abortifacient :A material that causes abortion.
Acne: An inflammatory follicular, popular and pusular eruption involving the sebaceous apparatus.
Acute and chronic pancreatitis: Acute pancreatitis is an inflammatory condition of the pancreas that is painful and at times deadly. Chronic pancreatitis is long-lasting inflammation of the pancreas. It most often happens after an episode of acute pancreatitis.
Adaptogen: Having substances that increase the body's own response to oxidative stress (a phenomenon that is not conclusive by receptor theory).
Adenopathy: Enlargement of glands.
Adrenal gland stimulant: Stimulates the adrenal gland to release its hormones at a faster rate.
Alkaloids: A hetero-group of basic materials that consist of nitrogen-containing ring compounds, secondary compounds (not primary) to a plant's life but which are found in plants and usually have strong medicinal activities.
Allelochemicals: Secondary metabolites produced by certain plant species and have inhibitory or stimulatory effects on the same or other plant species or microorganisms.
Alopecia :An organic disease that causes temporary hair loss.
Alterative: A medicinal substance that acts gradually to nourish and improve the system.
Amenorrhea: Delayed menstruation.
Amoebiasis: A disease caused by *Entamoeba histolytica*, a pathogenic intestinal amoeba spread by cysts or parasitic infection in the gastrointestinal tract; amoeba entamoeba histolytica.
Anaesthetic: Pertaining to, characterized by or producing anaesthesia.
Analeptic: Stimulates the central nervous system; acts as an antispasmodic and anticonvulsant; and improves breathing by stimulating the respiratory muscles.
Analgesic (Anodyne) :A material that reduces, relieves or eliminates pain.
Anaphordisiac :A material that reduces potency.
Anemia: Blood deficiency resulting from a reduction in blood red cells' number or amount of oxygen that carries the hemoglobin into these cells.
Angina pectoris: A sudden severe ailment in the centre of the chest resulting from a deficiency in blood supply to the heart.
Anhidrotic (Antidiaphoretic): The deficiency or absence of perspiration; adiaphoresis.
Anodyne: Soothes and relieves pain.
Anorexia: An eating disorder characterized by markedly reduced appetite or a total aversion to food. It is a serious psychological disorder.
Anthelmintic (Vermifuge): Expelling or destroying parasitic worms, especially of the intestine.
Anti neuralgia: A substance that removes nerve ailments
Antiallergic: Against immunologic response in a susceptible person to exposure to an allergen.
Antiasthmatics: A substance that removes or prevents contraction of air passage and breathing and thus cure asthma.
Anticarcinogenic: Acting as an anti-neoplastic agent, it acts against metabolites, alkylating agents, plant alkaloids (inhibit cell division), antibiotic, and taxanes (stabilize the mototoc spindle).
Anticatarrhal: Reduces formation of mucous.
Anticoagulant: Prevent clotting of blood. Any substance which prevents blood coagulation.
Anticonvulsant: Agent preventing or arresting convulsions. It suppresses the rapid and excessive firing of neurons that start a seizure.
Antidepressant: Drugs used in the treatment of depressive illness, which include tricyclic compounds (amitriptyline, imipramine).
Antidiabetic: A substance that prevents or cures diabetes.
Antidiaphoretics (Anhydrotics): A material that contains substances act against excessive perspiration.
Antidiarrhoea :A plant that cures diarrhoea because of its contents from relatively contracting materials that stop diarrhoea.
Antidote: A material that causes detoxification.
Antiemetic: Prevents or alleviates nausea and vomiting.
Antilithic: Reduces and suppresses the formation of urinary calculi (kidney stones) by dissolution.
Antimicrobial (vs. Antibacterial): Prevents the growth of bacteria, fungi, and some viruses.
Antinociceptive: Inhibits nociception, the sensation of pain.
Antiphlogistic: An agent that reduces or counteracts inflammation.
Antipyretic (Febrifuge): A medicine that lowers body temperature to prevent or alleviate fever.

Anti-rheumatic: Suppresses manifestations of rheumatic disease
Antisclerotics: A plant contains materials that reduce blood lipids.
Anti-scrofulous: Prevents or relieves scrofula, a tuberculosis infection of the lymph nodes that is most often caused by the bacterium *Mycobacterium tuberculosis*, which can be spread through the inhalation of contaminated air.
Antiscurvy: An antiscurvy material.
Antiseptic: A material that kills or inhibits the growth of diseases caused by bacteria and other germs.
Antispasmodic: Relieves or prevents smooth muscle spasms.
Antisyphilitic: Having an effect on or curing venereal diseases.
Antithrombiotic: Any substance capable of inhibiting the effects of thrombin so that blood does not clot.
Antitussive: A plant that prevents, suppresses or removes coughing.
Anxiety: Feeling of apprehension from the anticipation of danger, which may be internal or external.
Anxiolytic: Inhibits anxiety.
Aperient: Having a mild laxative or purgative effect without purging; a mild bowel stimulant.
Aperitive: Stimulates appetite.
Aphrodisiac: An agent that is alleged to increase libido or the duration of sexual activity.
Apoplexy: Sudden stroke. An effusion of blood into a tissue or organ.
Apoptotic: Effects in colorectal cancer cells.
Appetite: An agent that strengthens the stomach and stimulates its active releases; it is used as a strong appetizer.
Aqueous: An extract obtained from a plant or a plant part by steeping it in water.
Arched back: Curved back because of illness.
Aromatherapy: The treatment of worry or nervousness, or medical conditions that are not serious, by rubbing pleasant-smelling natural oils into the skin or breathing in their smell: aromatherapy massage or aromatherapy oils.
Aromatic oil: An oil of aromatic smell and pleasant taste and mostly volatile.
Aromatic plant: A plant that contains materials of aromatic smell and pleasant taste.
Arrhythmia: Any deviation from a natural status of the heart.
Arteriosclerosis: Overall results of deteriorating defects that affect veins and result in sclerotic sides.
Arthralgia: Pain in the joint.
Arthritis: Joints inflammation that are characterized by swellings, sclerosis and pain with reduced motion.
Ascites: Accumulation of free fluid in the peritoneal cavity. It causes abdominal distention with fullness of flanks.
Asthenia: Loss of strength; disability.
Asthma: Alteration in breath restrictions, rapid breathing associated with disturbance in blood circulation and mucus membrane releases of respiration tracts.
Astringent: A binding agent that contracts organic tissue, reducing secretions or discharges of mucus and fluid from the body.
Bacteriostatic: A material that stops or reduces growth and duplication of bacteria numbers.
Barrenness: Sterile, incapable of producing offspring.
Basal: Forming a base.
Bedsores: Decubitus ulcer, pressure sore, ischaemic necrosis and ulceration of tissue especially over a bony prominence.
Bedwetting: Enuresis, urinating that occurs while someone (such as a child) is sleeping in bed.
Benign prostatic hyperplasia: A non-malignant enlargement of the prostate due to an excessive growth of the prostate tissue, present in elderly males as nocturia; difficulty in urination and diminished force of the urinary stream.
Bile pigment: Highly coloured substances such as bilirubin and biliverdin found in bile that are derived from haemoglobin.They impart brown colour to the stools.
Biliousness: A disorder of the liver characterized by nausea, abdominal discomfort and constipation.
Bioactive: Interaction with, or effect on, any cell tissue in the human body.
Biopsies: Removal of a piece of tissue from the body and examining it microscopically after staining for purpose of diagnosis aspiration.
Bitter (Appetizer): A plant that contains bitter materials stimulates the appetite and affects the secretions of the gall bladder.
Bitter tonic: Acts on mucus membranes of the mouth and stomach to stimulate the flow of saliva and gastric juices that promote digestion; used for a temporary loss of appetite.
Blear visio: Unclear, ambiguous sighting.
Blenorrhea: discharge from the urethra or vagina due to gonorrhea.
Blistering: An elevation of the epidermis conaining fluid.
Bloat: Swollen.
Blood clotting: The conversion of blood from a free flowing liquid to a semisolid gel.
Blue babies: A neonate with cyanosis of any aetiology.
Boil: Infection of a hair follicle by staphylococci. It is characterized by redness, swelling, heat and tenderness.

Bone resorption diseases: It is a resorption of bone tissue, that is, the process by which osteoclasts break down the tissue in bones and release the minerals, resulting in a transfer of calcium from bone tissue to the blood.

Breast cell line: Breast cell cancer. A malignant neoplasm of breast tissue in women between age of 30 and 50 may present as a small painless lump, thick or dimpled skin or nipple retraction, nipple discharge, ulceration and enlarged axillary lymphnodes, metasteses through the lymphatics to axillary lymph nodes and to bone, lung, liver and brain.

Bronchitis: Inflammation of the respiratory tract that is characterized by coughing and mucus secretion.

Bruises: Superficial injury. It is an injury that appears as a purple mark on the body, although the skin is not broken.

Cancers: Diseases caused by diorders or defections in cells' functions that can affect tissues and spread in the body in different shapes, and mostly cause death.

Caoutchouc: An elastic material obtained from the latex sap of trees (especially trees of the genera Hevea and Ficus) that can be vulcanized and finished into a variety of products.

Carbuncles: Large multilocular boil of the skin and deeper tissues. It terminates in a slough and suppuration. It is associated with systemic manilestation.

Carcinogenic: Any substance or agent that tends to produce a cancer.

Cardiac: Any material that affects the heart.

Cardioprotective: Protect heart from being attacked by diseases or other factors.

Cardiotonic: A plant that contains materials affecting the heart's function.

Cardiovascular diseases: Diseases that affect heart and blood vessels such as a collapse resulting in a sudden loss of effective blood flow.

Carminative: An agent for easing griping pains, colic and expelling gas from the intestines. It relieves gas and gas pain in the bowels.

Carthartic: Empties bowels as with a gentle laxative effect.

Cataplasm: A poultice or plaster. A soft moist mass, often warm and medicated, that is spread over the skin to treat an inflamed, aching or painful area, to improve the circulation, etc.

Cataract formation: A cataract is a clouding of the lens in the eye which leads to a decrease in vision or opacity of the lens of the eye, its capsule or both capsulars.

Catarrh: The release of a thick nasal mucus from mucus membranes in the nose and throat.

Catarrhal affections: Inflammation of the mucous membrane of the nasopharyngeal mucous.

Catarrhal disorders: Catarrh is a disease of the mucus membrane of the nasal passages and those cavities of the head communicating with them. Insignificant as it appears in its first stages, it is apt in its progress to become instrumental in causing the loss or impairment of smell, taste, hearing and sight, and of creating serious constitutional derangements, not infrequently terminating in consumption.

Cathartic: Cleansing the bowels, promoting evacuations by stool, purgative.

Cellulitis: Inflammation of the skin and tissues beneath it from a bacterial infection.

Central nervous system: The part of the nervous system that contains the brain and spinal cord.

Cephalalgia: Headache: Headache, or cephalalgia, is defined as diffuse pain in various parts of the head, with the pain not confined to the area of distribution of a nerve.

Cerebral edema: Cerebral, pertaining to the cerebral hemisphere. Water retention and swellings of brain.

Cervical cancer (Neck cancer): Cervical cancer affects the entrance to the uterus (womb). The cervix is the narrow part of the lower uterus, often referred to as the neck of the womb.

Chancre: A painless sore usually in the genitals that develops during the primary syphilitic ulcer, a true ulcer which is hard ovoid with sloping edges, a blood stained discharge.

Cholangiocarcinoma (bile duct cancer): Cholangiocarcinoma is cancer that forms in the slender tubes (bile ducts) that carry the digestive fluid bile. Bile ducts connect your liver to your gallbladder and to your small intestine. This condition, also known as bile duct cancer, is an uncommon form of cancer that occurs mostly in people older than age 50, though it can occur at any age.

Cholecystitis: Inflammation of the gall bladder. Cholecystitis refers to a painful inflammation of the gallbladder's wall. The disorder can occur a single time (acute), or can recur multiple times (chronic).

Choleretics, Cholagogues: Materials that either stimulate gallbladder productions or are released in the gall and pancreas glands in the duodenal part.

Choleretics, Cholagogues: The plant contains materials either stimulate the gallibladder productions or release in the galli and pancreas gland in duodenal part.

Chronic myelogenous leukemia (CML): A persistent blood cancer. It is an uncommon type of cancer of the blood cells.

Chronic pancreatitis: An inflammation of the pancreas that does not heal or improve – it gets worse over time and leads to permanent damage.

Chronic: Chronic disease that associated with very slow changes or a disorder that persists for a long time.

Cicatrizant: Form a scar or a medicine or application that promotes the healing of a sore or wound, or the formation of a cicatrix.

Colic: Painful and abdominal spasmodic.

Cologne: A type of perfume, a liquid that smells good and is meant to be dabbed behind the ears.

Coma: A case of very deep and long unconsciousness.

Conjunctivitis: Inflammation of the mucus membrane that covers the eye's front part and lines in the eyelid.
Constipation: The rare expelling of feces from the intestine for an unusually long period.
Contusions: A bruise, an injury without a break in the skin or an injury, as from a blow with a blunt instrument, in which the subsurface tissue is injured but the skin is not broken.
Convulsion: Very strong contractions in muscles.
Copious diuresis: Postobstructive diuresis is a polyuric state in which copious amounts of salt and water are eliminated after the relief of a urinary tract obstruction.
Cornea: The transparent outer covering of the eye that protects the front of it.
Corns: Small calloused areas of skin caused by local pressure irritating tissue over a bony prominence. Corns most commonly occur over a toe where they form what is referred to as a hard corn. Between the toes, pressure can form a soft corn of macerated skin which often yellows.
Costive: A materials of strong astringent that cause constipation.
Cramp: Spasmodic and painful contractions in muscles.
Crawling skin: Very uncomfortable and being scared. When something makes skin crawl, it makes feel unpleasant or uncomfortable.
Cross-reactivity: Reaction of antibody with several antigens or vice versa, indicative of similarity of antigen determinants.
Cutaneous diseases: Skin diseases
Cystitis: Inflammation of the bladder, usually caused by a bladder infection.
Cytotoxic: Inhibition of cells' functions; the destruction of cells or their functions are caused by antibodies or by toxins.
Dandruff: An excess amount of scaly material composed of dead keratinized epithelium shed from the scalp.
Decoction: An extract of soluble substances in water of a medicinal plant. It is a medicinal preparation.
Demulcent: A medication (in the form of an oil or salve, etc.) that soothes inflamed or injured skin. It relieves inflammation by soothing irritated membrane.
Dentition: The type, number or arrangement of teeth in the dental arch.
Deodorant: A substance which suppresses or neutralizes bad odour such as lime or bleaching powder.
Depression: A reduction in the level of body functions or nerve activity because of a certain agent.
Depurative: An agent which is able to purify the blood or the humors (body fluids).
Dermatities: Inflammation of the skin characterized by itching, redness and various skin lesions.
Dermatophytosis: Infection by fungi that lives on keratinous structures and can infect the epidermis, the hair and the nails.
Detersive: Relating to or having detergent or cleansing activity; a **detersive** agent.
Diabetes: A defect in carbohydrates' metabolism, no sugar oxidation occurs in the blood for energy release because of a reduction in the insulin hormone.
Diaphoretic: An agent that promotes perspiration.
Digestive: An agent that aids digestion.
Discutient: Uncertain; any agent or process that disperses a tumour or lesion or causes the dispersal or disappearance of a pathological accumulation (tumors).
Disinfectant: A material that kills bacteria and other germs.
Diuretic: Tending to increase the secretion and discharge of urine.
Dontalgic: Relating to or marked by toothache.
Dropsy (edema): A severe accumulation of liquid in the body tissues.
Drowsiness: Almost falling asleep.
DuctbBile: The duct that carries bile and pancreatic juice to the duodenum.
Duodenal ulcer: Ulcer in the first part of the duodenum. Sores in the mucus membrane of the duodenum intestine result from digestive acidic extract.
Dysenteric: A disease caused by amoeba that contaminates food and water, resulting in bleeding with feces and a clear difficulty in controlling the feces.
Dysmenorrhoea: Painful menstruation.
Dyspepsia: Indigestion.
Dyspnea: Difficulty or laboured breathing; it is a subjective complaint.
Dysuria: Difficulty or pain in urination.
East coast fever: A lethal disease of cattle caused by the blood parasite.
Ecchymotic: Pertaining to a discoloured area on the skin or mucous membrane caused by extravasation of blood into the tissue.
Eczema: Dermatitis, associated with itching, redness and weeping.
Elephantiasis: Enlargement and thickening of tissues.
Emaciation: Loss of weight associated with meagerness.
Emetic: An agent that causes vomiting, in which the stomach is emptied of its contents.
Emmenagogue: An agent that promotes menstrual flow. It also called a hemagogue.
Emollient: Substances resembling cream that have a soothing and moisturizing effect when applied to the skin or an irritated internal surface.

Emphysema: Inflation, abnormal distension of an organ or part.
Enteritis: Inflammation of the intestines and especially of the human ileum.
Enuresis: Incontinence of urine. Involuntary urination, which may be caused by a variety of factors. These include disorders of the kidneys, bladder, or ureter and/or poor control of the muscles that control the release of urine.
Epilepsy: A sensory case characterized by an unexpected emergent phenomenon of severe symptoms combined with a temporary signal of a large number of nerve cells that release its electrical charges once.
Epiphora: An abnormal overflow of tears down the cheeks due to structure of the lacrimal duct.
Erysipelas: A contagious disease of skin and subcutaneous tissue with diffuse deepened inflammation due to infection with *Streptococcus pyogenes*.
Essence: A solution of aromatic oil in alcohol.
Essential oil: Volatile oil found in aromatic plants and contains terpinoides.
Estrogenic: An excitant sex hormone. Any of several major female sex hormones produced primarily by the ovarian follicles of female mammals, capable of inducing estrus, developing and maintaining secondary female sex characteristics, and preparing the uterus for the reception of a fertilized egg; used, especially in synthetic form, as a component of oral contraceptives, in certain cancer treatments, and in other therapies.
Ethanol-induced gastric ulcers: Ethanol-induced damage to the gastrointestinal mucosa causes changes in the structure of the gastroduodenal mucosa and an increase in lipid peroxidation, which may be due to the generation of oxygen-free radicals following ethanol administration as causative factor in these lesions.
Expectorant: Substance that induces the ejection of mucus, phlegm, and other fluids from the lungs and air passages by coughing or spitting.
Extract: Concentrated formulations of the active ingredients of plant or animal drugs obtained by evaporation of the drug solution in water, alcohol or ether.
Eye bath: A substance used to wash off any infections or other materials from the eye and help rapid recovery.
Famelial meditterainean fever (FMF): An inherited disorder presenting with fever, abdominal pain, chest pain and rash. Some may develop amyloidosis. The disease is self limited.
Fatigue: A state of exhaustion.
Fatty (Fixed) oil: A natural plant or animal nonvolatile oil which is a mixture of fatty acid esters.
Febrifuge: Abates and reduces fevers.
Fever: An abdominal elevation of the body temperature to above 37.7°C in a resting person.
Fibroblasts: Spindle-shaped undifferentiated cell in the connective tissue.
Fistulas: An abdominal passage from the internal organ to the body surface or between two internal organs.
Flatulence: Gas generation in the stomach and intestines.
Flavonoids: A group of plant metabolites; polyphenolic molecules, soluble in water, that create antioxidant effects through the activation of cell signalling pathways.
Fluid retention: Congestion of the gallbladder, causing the yellow digestive peptic to be retained inside and not released.
Food poisoning: Occurrence of a rapid onset of vomiting, profuse watery diarrhea and abdominal pain after the ingestion of preformed bacterial toxins elaborated by certain microbes.
Fractures: Injury to a bone wherein the continuity of the bone is broken. It is characterized by pain and tenderness, deformity in the form of swelling, shortening or angulation and loss of function.
Galactogogue: An agent which promotes milking in nursing mothers.
Galenical: An ideal original plant or animal preparation.
Gallstone: A solid mass from the cholesterol, a yellow dye and calcium salts formed in the bladder or duct bile.
Ganglion: A mass of nerve cell collection situated outside the central nervous system.
Gargle: A liquid drug placed in the mouth for certain period and is swilled from one side to another, and can also be placed in the throat.
Gastric, intestinal ailments: Stomach and intestines are irritated and inflamed.
Gastricpain: Commonly used to describe pain or discomfort in the upper abdomen. Other symptoms typically include heartburn, bloating, belching and nausea.
Gastritis: Inflammation of the stomach wall.
Gastroenteritis: *Gastritis or fine intestine that usually causes vomiting or diarrhea.*
Gastrointestinal disturbances: Stomach and intestine disturbance.
Genitalia: The organs of reproduction, especially the external organs.
Germicide: *A material that kills bacteria and other microorganisms.*
Giat anomalies: Deviating from or inconsistent with the common order, form, or rule; irregular; abnormal.
Gingivitis: Inflammation of the gums usually caused by poor dental hygiene.
Glaucoma: A condition that causes damage to eye's optic nerve and gets worse over time. It is often linked to a buildup of pressure inside the eye. It tends to be inherited and may not show up until later in life.
Gleet: Chronic acute inflammation.
Glycoside: A group of substances in the plant that contain carbohydrates particles (sugar) that are liable to be transferred by hydration into sugar and non-sugar materials. Glycosides have toxic side groups, secondary compounds (not primary) to a plant's life.
Gonorrhea: A sexually transmitted disease predominantly affecting the lower genital tract, rectum and conjunctiva.

Gout: A food metabolism disease that is described by painful inflammations of certain joints resulting from the salt deposit of uric acid in these joints.
Gravel: A small stone formulated in the urine duct and deposited with urine.
Gynaecologics: A plant species that contains materials affect the female sexual regenerative system some of which cure muscles contractions at the lower edge of the basin and menstruation ailments.
Gynecological disorders: The study of diseases peculiar to women especially those of genital tract and breasts.
Haematopoietic neoplasms: Neoplasms located in the blood and blood-forming tissue (the bone marrow and lymphatic tissue). The commonest forms are the various types of leukemia, of lymphoma, and of the progressive, life-threatening forms of the myelodysplastic syndromes.
Haemolysis: Breakdown of the blood red cells.
Haemostatics (Styptic): A plant contains substances that stop bleeding since cause blood vissles and tissue contractions.
Hallucination: Realization in that of something false not found or exists in reality.
Hallucinogen: A material that causes hallucination.
Hansen's disease: Leprosy, a chronic granulomatous infection caused by a bacterium which affects various parts of the body, including in particular the skin and nerves. (Granulomatous refers to the formation of granulomas, inflammatory nodules that are usually small, granular, firm, and persistent.) The bacterium responsible for leprosy is called Mycobacterium leprae or, for short, M. leprae.
Heart arrhythmia: Loss or an irregularity of cardiac rhythm.
Hematophage insects: Insects feeding on blood.
Hematuria: Presence of blood cells in urine.
Hemolytic: Effects, factors or substance that cause blood liquefaction.
Hemorrhaged: Internal or external excessive bleeding.
Hemorrhagic disorders: A group of conditions that result when the blood cannot clot properly. In normal clotting, platelets, a type of blood cell, stick together and form a plug at the site of an injured blood vessel.
Hemorrhoids (Piles): Enlarged (varicose) veins in the wall of the anus.
Hepatic: Acting on or occurring in the liver.
Hepatitis: An inflammation of the liver cells and damage to the liver. There are different types and causes, but the symptoms can be similar.
Hepatoprotective: A substance or a drug that protects the liver from hepatitis disease.
Hepatotoxic: Toxic substances that destroy liver cells.
Hepatotoxicity: Liver cells' destruction by a toxic substance.
Herbal compress: A dry, moist, hot or cold poultice with or without medical materials applied and pressed on the infected part of the body.
Hernia: Abdominal protrusion of an organ or structure through a defect of a natural opening found in a covering membrane, muscle or bone.
Herpes: Inflammatory disease characterized by small vesicles in clusters caused by herpes viruses.
Hiccup: Spasms of the diaphragm usually due to irritation in the upper abdominal area.
HIV-1 virus: Abbreviation for human immune-deficiency virus
Hives (hivz) urticaria: An itchy raised rash on the skin surrounded by inflammation, that result from the allergic reaction.
Hoarseness: Having a rough, harsh quality of voice.
Homeopathy: A system of medical practice that treats a disease, especially by the administration of minute doses of a remedy that would in larger amounts produce in healthy persons symptoms similar to those of the disease.
Hormone: A material that is produced in the body by an organ or cell in the organ and translocates to another organ to cause its regulatory effects.
Human colon carcinoma: A malignant tumour arising from cells in the surface layer of lining membrane of colon. They tend to infiltrate and metastasise to distant organ or parts of the body.
Human hepatocellular carcinoma: Hepatoma, primary malignant liver tumour. Aflatoxin contamination of foods, chronic hepatitis B and C virus infection, and cirrhosis are mainly responsible factors.
Hydrophobia: An acute viral disease of the nervous system of warm-blooded animals (usually transmitted by the bite of a rabid animal); rabies is fatal if the virus reaches the brain.
Hydropsy: Oedema, distension with fluid. An abnormal concentration of organic fluid in a tissue or cavity of the body. Even though it generally affects lower limbs, hydropsy can also impact any other organ of the human body.
Hypersensitivity: Abnormal sensitivity to any stimulus exhibiting an excessive response.
Hypertensive: Marked by increased blood pressure. An individual with abnormally high blood pressure.
Hypnotic (Soporific): A material that causes sleep.
Hypo-cholesterolemic: Markedly rduces amount of cholesterol in the circulating blood.
Hypoglycemic: Abnormal decrease of sugar in the blood.
Hypokalemia: Hypopotassemia; an abnormally decreased level of potassium ions in the blood circulation.
Hypolipidemic: Decreased lipid concentration in the blood.
Hypotensive: Agents causing diminished tension or pressure in a person.

Hypothalamus: A small area of the brain that helps to stimulate key functions. For example, it helps to regulate temperature and weight.
Ichors: Thin, fetid discharge from an ulcer or wound.
Immunohematology: A branch of immunology that deals with the immunologic properties of blood or the study of blood and blood-forming tissue in relation to the immune response.
Immunomodulatory: Having the ability to alter or regulate one or more immune functions, i.e. the stimulation of antibody formation or the inhibition of white blood cell activity.
Immunosuppression: Prevention of activation of an excessive or inapproperiate immune responseby drugssuch as corticosteroids, cyclophosphamide, methotrexate or cyclosporine.
In vitro: Outside the living body and in an artificial environment.
In vivo: Inside the living body of a plant or animal
Inappetence: Anorexia, lack or loss of appetite.
Incoordination: Inability to produce a coordinated action, lack of coordination.
Indurated breast: Hard breast.
Inflammatory: Pertaining to or marked by inflammation.
Influenza (Flu): Viral infection affecting the respiratory tract.
Infusion: Extraction of the water soluble constituents of a medicinal plant by raising the temperature up to its boiling *point. The medical preparation can be obtained by this method.*
Inhalation: A smelling material for curing the respiratory system and made from essential oils or well distributed solutions or fine powders taken through the nose.
Insanity: Mental derangement with unreliability of behavior with concomitant danger to himself and other.
Insecticide: A material that kills insects.
Insomnia: Chronic inability to sleep or staying awake for a long period.
Interferon-gamma: An interferon produced by the lymphocytes and large granular lymphocytes in response to foreign macromolecules
Intestinal glut: Intestine fills especially with food to satiety.
Intraocular pressure: Pressure within the eyeball.
Intraperitoneally: Within the peritoneal cavity.
Irritant: A material that causes tissue agitation.
Ischemia: Deficiency of blood supply to an organ or tissue.
Jaundice: Liver inflammation that causes congestion and body yellowing in general.
Keratinocytes: The epidermal cell that synthesiseskeratin.
Kibes: Foot swellings, a chapped or ulcerated chilblain, especially on the heel.
Lankness: Meager.
Laryngitis: Inflammation of the mucosa lining larynx that causes hoarseness.
Laxative (Aperient or Aperitives): An n agent that stimulates the evacuation of soft, formed stools.
Lenitive: A medicine or application that has the quality of easing pain or protecting against the action of irritants.
Leprosy: Hansen's disease; a chronic granulomatous infectious disease caused by *Mycobacterium leprae.*
Leucodermia: Local or total absence of pigmentation in the skin.
Leucorrhea: White discharge from the vagina.
Leukemia: Blood cancer disease.
Lithontriptic: Dissolving or destroying stone in the bladder or kidneys.
Liver coughs: Liver diseases including hepatitis.
Liver oxidative stress: Oxidative Stress: A condition that is created in the liver when there are more free radical atoms and/or molecules than antioxidants to neutralize them.
Lotion: A medical liquid for external uses.
Lues: An old name for syphilis, a sexually transmitted disease (STD) that has been around for centuries and is caused by Treponema.
***Lung disorders**: Any problem in the lungs that prevents the lungs from working properly.*
Lupus: A chronic inflammationof connective tissue with skin leasions, wolf.
Luteotropic: Stimulating formation of the corpus luteum.
Lymphatic diseases: Diseases of lymph vessel.
Lymphocytic leukemia: An uncontrolled proliferation and accumulation of mature B lymphocytes. The symptoms result from bone marrow failure.
Maceration: Softening of a solid material by soaking in water.
Malformed fetuses: Abnormal shape or structure of ababy from third month until birth.
Mange: Animal scabies.
Massage: An old and modern curing method used in the bath, for which the patient sits in the hottest place in the bath and on a hot stone or plate. Once excessive perspiration has started, the patient can then be massaged using a rough cloth garment.
Mastitis: Inflammation of the breast.
Medicated plaster A medical mixture in a paste form that can be applied to the infected body parts and stuck on at body temperature.

Melanoma: Vitamin tumor is a type of cancer that develops from the pigment-containing cells known as melanocytes. Melanomas typically occur in the skin, but may rarely occur in the mouth, intestines, or eye.
Melliferous: Yielding or producing honey.
Meningitis: Inflammation of membranes that surrounded the brain, lead into unconseousness and death.
Menopausal syndrome: The cessation of menstrual activity which occurs between the ages of 45 and 50, characterized by menstrual irregularity, hot flushes, irritability, increased weight, osteoporosis and atrophy of female tissues.
Menstrual obstructions: Blockage in the flow of menstrual fluid.
Menstruation: Monthly period in women that is associated with the excretion of large amounts of blood from the uterus.
Metabolism: The ultimate physical and chemical operations that occur in the body and help its continued growth and function.
Metastases: Distal spread of a malignant cell either through the blood or a lymphatic vessel along a serosal membrane.
Migraine: A pain and headache in the half of the head that is associated with disturbed sight and nausea.
Miliaria: An inflammatory disorder of the skin that is characterized by redness, eruptions (as of vesicles), and burning or itching due to blockage of sweat gland ducts.
Mineralocorticoid: A qadrenocortical hormone that influence sodium and potassium metabolism.
Molluscicides: A chemical used to kill or control snails and slugs, some of which are intermediate hosts of parasites of medical importance to man.
Moxibustion: A form of heat therapy in which dried plant materials called "moxa" are burned on or very near the surface of the skin.
Mpathomimetics: Simulating sympathetic nervous action in physiological effect or causing a physiological effect similar to that produced by stimulation of the sympathetic nervous system.
MRC-5 (human pulmonary embryonic fibroblasts): A diploid human cell culture line composed of fibroblasts derived from lung tissue of a 14 week old aborted caucasian male fetus.
Mucilage: A gelatinous complex carbohydrate that is released from certain plant species.
Mucorrhea: Mucus secretions resulted in pancyrias cancer or mucus dysentery.
Mucous membrane (Mucosa): The moist membrane that is enclosing many ducts and niches in the body including the digestive and resperatory channels.
Mucus: Fine secretion that protects mucus membrane that mainly contains glycoprotein.
Muscle relaxant: Any drug which relaxes the muscles and may be used to treat muscle spasms and muscle pain.
Musk perfumes: Musk is a substance with a strong smell which is used in making perfume.
Mutagenicity: Having power to cause mutation or the capacity to induce mutations.
Myalgia: Pain in the muscles or within muscle tissue.
Myopia: Short sight in which parallel rays entering the eye focus in front of the retina.
Narcotic: A drug which relieves pain and induces sleep when used in medicinal doses.
Nausea: The condition of feeling sick and of needing to vomit.
Neoplasm: Abnormal growth of tissue caused by the rapid division of cells that have undergone some form of mutation.
Nephritic: Renal, referring to kidneys or to diseases of the kidneys.
Nephritis: Kidney inflammation.
Nervine: A substance which has the quality of acting upon or affecting the nerves or the nervous system, having a soothing or calming effect and calming the nervous excitement.
Neuralgia: Pain occurring along the nerve or severe pain in the course of the distribution of a nerve due to irritation or damage to a nerve.
Neuroprotective: Serving to protect neurons from injury or degeneration.
Neurotransmitter: A chemical that is released from a nerve cell which thereby transmits an impulse from a nerve cell to another nerve, muscle, organ, or other tissue. A neurotransmitter is a messenger of neurologic information from one cell to another.
Nociceptive: Capable of appreciation or transmission of pain.
Numbness: No feeling in some part of the body. One might, for example, experience numbness in the foot after sitting with it tucked under leg for an hour, and it can also be a symptom of various illnesses and conditions.
Nyctalopia: A condition of the eyes in which vision is normal in daylight but abnormally poor at night or in a dim light.
Ophthalmia: Inflammation of the conjunctiva or the eyeball.
Ophthalmic: Relating to or situated near the eye.
Ophthalmologic disorders: Ophthalmic disorders are associated with the phenotype of Down syndrome including strabismus, cataracts, and refractive errors potentially resulting in significant visual impairment.
Optic nerve: Either one of the second pair of cranial nerves, consisting of sensory fibers that conduct impulses from the retina to the brain. The optic nerve carries the impulses formed by the retina, the nerve layer that lines the back of the eye.
Osteoporosis: Thinning of the bones, with a reduction in bone mass, due to the depletion of calcium and bone protein.

Otitis: Inflammation of the middle ear characterized by the accumulation of infected fluid in the middle ear, bulging of the eardrum, pain in the ear and, if eardrum is perforated, drainage of purulent material (pus) into the ear canal.

Palpitation: An unusually or abnormally rapid or violent beating of the heart.

Palsy: Any of a variety of atonal muscular conditions characterized by tremors of the body parts, as the hands, arms, or legs, or of the entire body.

Paralysis: Paralysis that affects the body's side or other part of the body.

Parkinson's disease: A case of nerve loosening or relaxation that causes a loss of control and results in the continuous uncontrolled motion of some organs such as hands, foot, head and eyes.

Parthenolide: An active component in feverfew shown to have anti-tumor activity, inhibition of DNA synthesis, and inhibition of cell proliferation in different cancer cell lines.

Paste: An old form of drug; the medical substance is placed on a paste spread over or a cloth garment or leather and then placed on the tumours or places of ailments or congestions in order to degrade or relieve them.

Pectin: A group of acidic polysacharides found in plant that form jelly with sugar in normal conditions.

Pectoral: A medicine for diseases of the chest organs, especially lung diseases.

Peptic ulcer: The removal or scarification in the mucus membrane enclosing the digestive tract because of acidic digestive secretion.

Perinatal: Pertaining to the period immediately before and after birth. The perinatal period is defined in diverse ways. Depending on the definition, it starts at the 20th to 28th week of gestation and ends 1 to 4 weeks after birth.

Pharmacist: The eligible person who registered and examined for preparation and prescribing the drugs.

Pharmacopoeia: A formal publication that includes a list of the drugs and details on their formulations, shapes or designes, standard level of the product, dose and its uses.

Pharyngitis: An inflammation of the pharynx, which is in the back of the throat. It is most often referred to simply as a "sore throat." Pharyngitis can also cause scratchiness in the throat and difficulty swallowing.

Phlebitis: Inflammation of a vein, often occurring in the legs and involving the formation of a thrombus, characterized by swelling, pain, and change of skin colour.

Phlegm: Thick mucus in the nose and throat secreted in the respiratory passages and discharged through the mouth, especially that occurring in the lungs and throat passages and produced when one has a cold.

Pimples: A small, usually inflammatory swelling or elevation of the skin; papule or pustule.

Pineal and pituitary glands: The pineal gland, also called the pineal body or epiphysis cerebri, is a small cone-shaped structure that extends posteriorly from the third ventricle of the brain. The pituitary gland or hypophysis is a small gland about 1 centimeter in diameter or the size of a pea. It is nearly surrounded by bone as it rests in the sella turcica, a depression in the sphenoid bone. The gland is connected to the hypothalamus of the brain by a slender stalk called the infundibulum.

Pituitary gland: An important gland in the body often referred to as the 'master gland', because it controls several of the other hormone glands

Pityriasis: Any of various skin conditions of humans or domestic animals marked by dry scaling patches of skin.

Plaster: A drug mixture in a paste form which can be applied on the infected body part and stuck on at body temperature.

Platelet aggregation: The clumping together of platelets in the blood. Platelet aggregation is part of the sequence of events leading to the formation of a thrombus (clot).

Pleurisy: Lung inflammation in the lung wall that is accompanied with pain in respiration and coughing.

Pneumonia: An acute disease that is marked by the inflammation of lung tissue accompanied by infiltration of alveoli and often bronchioles with white blood cells (such as neutrophils) and fibrinous exudate; characterized by fever, chills, cough, difficulty in breathing, fatigue, chest pain, and reduced lung expansion, and is typically caused by an infectious agent (such as a bacterium, virus, or fungus).

Poisonous plant: A plant or a part of the plant that causes toxicity and can be harmful when used externally or internally.

Poultice: A soft composition, such as bread, bran, or a mucilaginous substance, to be applied to sores, inflamed parts of the body, so as to relieve them, or a moist warm garment or pad applied to the infected body organ or part.

Profuse menstruation: Heavy menstrual bleeding of a total menstrual flow >80ml per cycle, or soaking a pad/tampon every 2 hours or less. Excessive bleeding can lead to anemia which presents as fatigue, shortness of breath, and weakness.

Prolapsed uterus: A uterus that has moved from its normal position in the abdominal cavity into a different position, usually a lower position.

Pruritus: Itching. It can be associated with a number of disorders, including dry skin, skin disease, pregnancy, and, rarely, cancer.

Psoriasis: A genetically programmed inflammatory disease that primarily affects the skin in about 3% of individuals in the United States. Psoriasis is characterized by skin cells that multiply up to 10 times faster than normal. When these cells reach the surface and die, raised, red plaques covered with white scales form. Psoriasis begins as a small scaling papule. When multiple papules coalesce, they form scaling plaques. These plaques tend to occur in the scalp, elbows, and knees.

Puke: Vomit.

Pulmonary consumption: (Pathology) a communicable disease caused by infection with the tubercle bacillus, most frequently affecting the lungs (pulmonary tuberculosis). Also called: consumption *or* phthisis Abbreviation: TB.

Pulmonary disease: Any abnormal condition of the respiratory system, characterized by coughing, chest pains, dyspnoea, hemoptysis, sputum production, stridor, or adventitious sounds. Pulmonary diseases (such as emphysema or chronic bronchitis) are characterized by chronic typically irreversible airway obstruction resulting in a slower rate of exhalation (COPD).

Pulmonary hemorrhage: An acute bleeding from the lung, from the upper respiratory tract and the trachea, and the alveoli.

Pulmonary oedema: Fluid accumulation in the tissue and air spaces of the lungs.[1] It leads to impaired gas exchange and may cause respiratory failure. It is due to either failure of the left ventricle of the heart to remove blood adequately from the pulmonary circulation (cardiogenic pulmonary edema), or an injury to the lung parenchyma or vasculature of the lung (noncardiogenic pulmonary edema).

Pulmonary troubles: Lung problems.

Pulmonary tuberculosis: A contagious, airborne infection that destroys body tissue. Pulmonary TB occurs when *M. tuberculosis* primarily attacks the lungs. However, it can spread from there to other organs. Pulmonary TB is curable with an early diagnosis and antibiotic treatment.

Purgative: A material that evacuates the abdomen through diarrhoea and at a stronger and faster degree than laxative. Loosens the stool, sometimes vigorously.

Rabies: An acute virus disease of the nervous system of mammals that is caused by a rhabdovirus (species *Rabies virus* of the genus *Lyssavirus*), usually transmitted through the bite of a rabid animal and that is characterized typically by increased salivation, abnormal behaviour, and eventual paralysis and death when untreated.

Radiculitis: Inflammation of a spinal nerve root.

Recumbency: Lying down; reclining; leaning.

Renal failure: Sudden and often temporary loss of kidney function. Also called acute kidney failure, as opposed to chronic renal failure.

Rennet: The lining membrane of the fourth stomach of a calf or of the stomach of certain other young animals.

Resolvent: A medicinal substance that reduces inflammation or swelling, serving to dissolve or separate something into its elements.

Retinopathy: Any disease of the retina, the light-sensitive membrane at the back of the eye. The type of retinopathy is often specified, such as arteriosclerotic retinopathy, diabetic retinopathy, or hypertensive retinopathy.

Rheumatism: Any disorders appeared as pain in joints and musceles.

Rosin: It is a brittle, transparent, glassy solid insoluble in water but soluble in a number of organic solvents.

Rotavirus: An infection that causes diarrhoea. It is the most common cause of diarrhoea in infants and children worldwide.

Rubefacient: Materials lead to local agitation and cause swelling and warm the skin. Produces skin redness from dilation of the capillaries and an increase in blood circulation.

Ruminant: A type of animal that brings up food from its stomach and chews it again, for example a cow, sheep, or deer; animals which have the ability to regurgitate and have four parts to their stomach are called ruminants.

Salivation: Secretion of saliva from specific glands in the mouth and especially in higher amounts.

Saponin: Any group of plant glycosides that form soap foam in water.

Scabies: A contagious skin disease occurring especially in sheep and cattle and also in humans, caused by the itch mite, *Sarcoptes scabiei*, which burrows under the skin.

Scarfskin: The outermost layer of the skin; epidermis.

Scarlatina: Also called scarlet fever, a disease caused by infection with group A streptococcal bacteria that occurs in a small proportion of people with strep throat.

Sciatica: Severe pain and and weakness in the lowest part of the back in the outer side of the leg and foot and along the longest nerve in the body.

Scleroderma: A disease of connective tissue that causes scar tissue (fibrosis) to form in the skin and sometimes also in other organs of the body. Scleroderma is classified into diffuse and limited forms. Diffuse scleroderma affects many internal and external areas of the body, including the skin of the entire body, the bowels, and the lungs. Limited scleroderma affects only certain body sections.

Scrofula: Primary tuberculosis of the lymphatic glands, especially those of the neck.

Scrofulous sores: A form of tuberculosis affecting the lymph nodes, especially of the neck, that is most common in children and is usually spread by unpasteurized milk from infected cows. Also called struma.

Scrofulous swellings: Swellings of primary tuberculosis of the lymphatic glands in the neck.

Scurvy: A disease resulting from a deficiency in vitamin C, the symptoms of which include spongy gums, loosening of the teeth, and bleeding into the skin and mucous membranes.

Sedative: An agent used for making a patient drowsy or soothed, but not strong enough to induce sleep.

Senile cortical: Relating to, exhibiting, or characteristic of old age senile weakness especially: exhibiting a loss of cognitive abilities (such as memory) associated with old age. Age-related changes of cortical excitability and connectivity in healthy humans.

Sepsis: A life-threatening illness caused by your body's response to an infection. Your immune system protects you from many illnesses and infections, but it's also possible for it to go into overdrive in response to an infection. Sepsis develops when the chemicals the immune system releases into the bloodstream to fight an infection cause inflammation throughout the entire body instead. Severe cases of sepsis can lead to septic shock, which is a medical emergency.

Septic spots: These are white or yellow pus-filled spots. They can occur anywhere, but are common around the nappy area or in neck, arm or leg creases. They look like small blisters and the skin around them may be red and weepy. Antibiotics may be needed to clear the infection and stop it spreading. Talk to your midwife, Plunket nurse, or doctor if you notice these spots.

Serology blood group: The process of identifying a person's blood group by serologic testing of a blood sample. Also called blood typing.

Sialagogue: Any drug or agent that can stimulate the flow of saliva.

Sinusitis: Inflammation of the lining membrane in any of the hollow areas (sinuses) of the skull around the nose.

Skin whitening: Regarded as being any means of trying to precisely lighten the pigmentation of the skin. The applications to do this are usually topical, but they may also include lasers as well as surgical procedures.

Somatities: Inflammation of the mouth.

Soporific: Drugs that are a class of psychoactives whose primary function is to induce sleep.

Spasmodic: Uncontrolled muscle contractions.

Spastic colon: Irritable bowel syndrome; also a colon affected with spasms or an increase in spontaneous contractions (motility) of muscles in the small and large intestines associated with IBS.

Splenomegaly: Abnormal enlargement of the spleen. Splenomegaly is a sign of an underlying condition, such as severe liver disease, leukemia.

Splinters: A very thin, sharp piece of wood, glass, or other hard substance.

Sputum: Saliva mixed with mucus coughed up from the respiratory tract.

Staggering: Walking unsteadily or moving shakily forward or shaking deeply, or arranging events so they do not happen all at once. Occurs when drunk.

Stimulant: An agent that excites or quickens the functional activity of the tissues, giving more energy.

Stomach ache: A pain in the stomach.

Stomachic: An agent that strengthens, stimulates or tones the stomach, or a plant that overcome stomach disorders and helps with digestion. Improves stomach function and increases appetite.

Stomatitis: A sore or inflammation inside the mouth. The sore can be on the cheeks, gums, inside of the lips, or on the tongue.

Stranguary: A slow and painful spasmodic discharge of urine drop by drop or a condition caused by blockage or irritation at the base of the bladder, resulting in severe pain and a strong desire to urinate.

Struma: A swelling in the neck due to an enlarged thyroid gland.

Styptic: Contracts tissue to seal injured blood vessels and promotes coagulation.

Stysties: A sty is a red, painful lump near the edge of your eyelid that may look like a boil or a pimple. Sties are often filled with pus. A sty usually forms on the outside of your eyelid. But sometimes it can form on the inner part of your eyelid.

Sudorific: An agent used to induce perspiration (sweat).

Suspending agent: A liquid in which a solid substance can be held in suspension.

Sympathomimetics: Simulating sympathetic nervous action in physiological effect. Or causing a physiological effect similar to that produced by stimulation of the sympathetic nervous system.

Syphilis: A sexual disease resulting from certain bacteria.

Tannin: A group of complex compounds found in many plants containing acids, phenols and glycosides.

Tetanus: An acute infectious disease characterized by tonic spasm of voluntary muscles especially of the jaw and caused by the specific toxin of a bacterium (*Clostridium tetani*) which is usually introduced through a wound.

Thorns: A sharp rigid process on a plant; especially one that is a short, indurated, sharp-pointed, and leafless modified stem.

Throat catarrh: Excessive discharge or build-up of mucus in the throat, associated with inflammation of the mucus membrane.

Thrombosis: Presence of blood clots in blood veins or in the heart.

Thrombus, Antithrombotic: A material that prevents blood coagulation.

Thymoma: A rare type of tumor that is the most common tumor type located in the area in the centre of the chest between the lungs (the anterior mediastinum).

Tincture: A medical extract in liquid of alcohol or alcohol and water. An herbal tincture is a liquid extraction of plant compounds, typically with an ethanol percentage of at least 25–60%.

Tinnitus: A sensation of noise (a ringing or roaring) that is caused by a bodily condition.

Tonic: A medicine that strengthens and invigorates, and hence restores normal tone to tissues or stimulates the appetite.

Tonsillitis: Inflammation of one or both tonsils, typically as a result of infection by a virus or bacteria.

Toxic: Toxic material or a material that causes toxicity.

Tranquillizer: A material or a plant that contains substances that overcome ailments, sedate the nerves, and remove fatigue.

Trembling: Shake involuntarily with quick, short movements, as from fear, excitement, weakness, or cold; quake; quiver.

Tremor: Shaking, non-violent trembling, and shivering.

Trifoliosis: Photosensitive dermatitis caused by the ingestion of burr trefoil (*Medicago polymorpha*).

Turpentine: Also called spirit of turpentine, oil of turpentine, and wood turpentine. It is a fluid obtained by the distillation of resin obtained from trees.

Tympanities: Distension of the abdomen due to presence of gas or air in the intestine or in the peritoneal cavity.

Tympanitis: Inflammation of the middle or inner ear, or the eardrum.

Ulcus cruris: Occurs frequently. It is a defect on the lower legs due to chronicle venous insufficiency.

Urinary calculi: A stone in the urinary tract. The word 'calculus' in Latin means 'a pebble.' Pebbles were once used for counting, from which came the mathematical field of calculus. A urinary calculus is a pebble in the urinary system.

Urolith: A calculus in the urinary tract.

Uvula: The small, fleshy, conical body projecting downward from the middle of the soft palate, which hangs above the throat.

Varicose veins: The case where the surface veins in the legs are extended, swollen, wrinkled and tortuous.

Varroosis: An external parasitic mite that attacks the honey bees *Apis cerana* and *Apis mellifera*. The disease of honny bees caused by the mites.

Vascular disorders: Problems with arteries and veins. Arteries are pipes that bring oxygen-rich blood from the heart to the fingers. Veins are pipes that return the used blood back to the heart and lungs. At the wrist, the radial and ulnar arteries bring blood into the hand. These arteries connect into two arches that branch out to supply blood to each of the fingers.

Vasoconstrictor: Materials that constrict blood vessels and thus reduce the blood flow and raise blood pressure.

Vasodilator: Materials that stretch/dilate the blood veins and widen them and thus increase blood flow and reduce blood pressure.

Venereal disease: A disease that is contracted and transmitted by sexual contact, caused by microorganisms that survive on the skin or mucus membranes, or that are transmitted via semen, vaginal secretions, or blood during intercourse.

Veno-occlusive disease: Hepatic veno-occlusive disease (hepatic VOD) is a condition resulting from toxic injury to the hepatic sinusoidal capillaries that leads to obstruction of the small hepatic veins.

Vermicide: A substance or agent used to kill worms, especially a drug used to kill parasitic intestinal worms.

Vermifuge: Expels worms.

Vernal ague: Ague is a fever (such as malaria) marked by paroxysms of chills, fever, and sweating that recur at regular intervals occurring in the spring.

Vesicant: An agent (such as a chemical weapon) that induces blistering or a substance that causes tissue blistering. A term often used in connection with large-scale chemical burns but may also include naturally occurring substances in plants.

Vitamins: A group of different important materials that are essential in very small quantities for growth, health and development; they cannot be produced by the body but are found in nature in some plants and in food of animal origin.

Vitiligo: A long-term problem in which growing patches of skin lose their color. It can affect people of any age, gender, or ethnic group.

Vulgaris: Means common. The most common form of acne is "acne vulgaris", meaning "common acne". Acne vulgaris is an inflammatory disease of the skin, affecting a large percentage of people, especially during puberty. The typical acne lesions can be categorized into comedones, papules, pustules, nodule and inflammatory cysts.

Vulneraries: A plant that cures inflammation and wraps the wounds and skin disorders. It heals wounds by increasing cell growth and repair.

Vulnerary: Heals wounds by increasing cell growth and repair.

Wart: A horny projection on the skin, usually on the extremities, produced by a proliferation of the skin papillae and caused by any of the numerous human papillomaviruses.

Wens: A benign encysted tumor of the skin, especially on the scalp, containing sebaceous matter; a sebaceous cyst.

Whitlows: An inflammation of the deeper tissues of a finger or toe, especially of the terminal phalanx, usually producing suppuration.

Whooping cough: An infectious respiratory disease especially of children caused by a bacterium (*Bordetella pertussis*) and marked by a convulsive spasmodic cough sometimes followed by a crowing intake of breath, called pertussis.

Wide-spectrum: the wide range of chemical compounds or constituents that are naturally occurring in a certain part of a particular species of plant.

Wilson's disease: A hereditary disease that is characterized by an excessive accumulation of copper in the body (as in the liver or brain).

Wound healing: A difficult and slow process, so an adequate treatment and optimized follow up are of the highest importance.

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